














MJS
BioLynx
INC.
2011

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jharron_thewildwood@hotmail.com*

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The range of Bio-Protein columns has increased to provide chromatographers with more options for successfully separating and analyzing proteins, peptides, antibodies, oligonucleotides and other biomolecules.

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Bio SEC-3 and Bio SEC-5 HPLC Columns

- High efficiency and high resolution size-based separations of biomolecules
- Bio SEC-3 columns are packed with 3µm porous silica particles coated with a hydrophilic layer to maximize separation efficiency and resolution
- Bio SEC-5 columns are packed with 5µm silica particles coated with a neutral hydrophilic layer that decreases secondary interactions

Bio IEX HPLC columns

- High resolution charge-based analytical separations of proteins, peptides, oligonucleotides and other biomolecules
- Packed with polymeric, non-porous particles coated with a hydrophilic layer that eliminates most non-specific interactions
- Multiple ion exchange groups are attached at each bonding site to increase capacity and selectivity

BioMAb Columns

- Specifically designed for high-resolution monoclonal antibody (MAb) separations
- Packed with polymeric, non-porous, weak cation exchange particles surrounded by a hydrophilic coating, which offers unique selectivity for antibodies and eliminates most non-specific interactions



YMC Bio-PRO IEX COLUMNS

- Designed for separating proteins and peptides
- Based on a newly developed hydrophilic polymer with low nonspecific absorption
- Available in QA (quaternary ammonium) and SP (sulfopropyl) chemistries on 5 µm porous and non-porous hydrophilic polymer beads packed in biocompatible PEEK column housings



RESTEK VIVA WIDE PORE HPLC COLUMNS

- Largest available surface area in 250-350Å pores for maximum retention and resolution of proteins, peptides and other larger biomolecules
- Excellent PEGylation reaction monitoring
- Highly base-deactivated wide pore packing exhibits excellent peak shape for a wide range of compounds in normal phase separations



KNAUER Bioline START HPLC SYSTEM

- A fast and accurate system designed for the quantification of proteins
- The Start System can also be upgraded with an autosampler for high sample throughput
- Bioline high resolution glass columns offer pressure stability up to 100 bar and a thermostatic jacket for temperatures between 0°C and 60°C, making them suitable for a wide range of biochromatography applications



AXIS-SHIELD DENSITY GRADIENT MEDIA

Axis-Shield, distributed by Greiner Bio-One Inc., offers a wide range of ionic, polysaccharide-based and non-ionic, iodinated density gradient media. The media are produced in compliance with cGMP for use in the separation of cells, organelles, membrane vesicles, viruses, proteins, nucleic acids, and lipoproteins.



AXIS-SHIELD LYMPHOPREP™

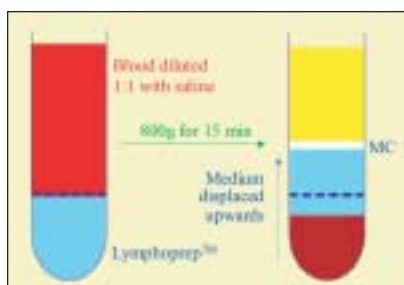
Isolation of human mononuclear cells

Almost all mononuclear cells have densities below 1.077 g/mL. These cells can thus be isolated by centrifugation on an isotonic medium with a density close to 1.077 g/mL. Lymphoprep™ is a ready-made, sterile, endotoxin tested solution for isolating human mononuclear cells.

Lymphoprep™ can be used for the preparation of pure lymphocyte suspensions for tissue typing, antilymphocyte sera and immunological research.

- Maximum yield and recovery when blood sample diluted 1:1 with saline
- Sodium diatrizoate 9.1% (w/v)
- Polysaccharide 5.7% (w/v)
- Density 1.077 ± 0.001 g/mL
- Osmolality 290 ± 15 mOsm
- Endotoxins <1.0 EU/mL

Lymphoprep™ is also available in a pre-filled sterile plastic tube. The Lymphoprep™ Tube consists of two compartments separated by a plastic insert. This insert allows the blood sample to be poured directly into the tube and diluted with physiological saline. Once the tube has been centrifuged under specified conditions, a distinct layer of mononuclear cells is found in the upper compartment.



| Product Number | Description | Pkg Size | Price |
|----------------|------------------|------------------|---------|
| AXS1114544 | Lymphoprep™ | 1 x 250 mL | \$77.60 |
| AXS1114545 | Lymphoprep™ | 4 x 250 mL | 175.90 |
| AXS1114547 | Lymphoprep™ | 6 x 500 mL | 355.00 |
| AXS1019818 | Lymphoprep™ Tube | 18 tubes x 10 mL | 184.70 |
| AXS1019817 | Lymphoprep™ Tube | 30 tubes x 2 mL | 184.70 |

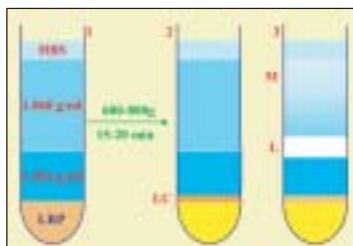
AXIS-SHIELD OPTIPREP™

An all purpose density gradient media

OptiPrep™ is the trademark name of a sterile, endotoxin tested solution of 60% (w/v) solution of 60% w/v iodixanol in water that is designed for the *in vitro* isolation of biological particles. Iodixanol is essentially a dimmer of Nycodenz™; hence, OptiPrep™ is non-ionic and has all the benefits of Nycodenz™.

Applications

- Density: 1.320 ± 0.001g/mL
- Osmolality: 170 ± 15 mOsm
- Endotoxin level < 1.0 EU/mL
- Can be used for either preformed gradients or self-generating gradients
- Isotonic solutions can be maintained at high densities
- Isolation of cells, subcellular membranes, viruses, plasma lipoproteins, nucleic acids and proteins



Isolation of human monocytes. Leucocytes (LC) float rapidly to surface of a dense leucocyte-rich plasma (LRP) to form a sharp band (1-2) from which the monocytes (M) and the lymphocytes (L) are resolved (3).

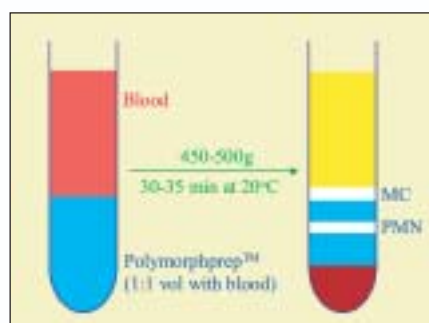
| Product Number | Description | Osmolality ± 15 mOsm | Pkg Size | Price |
|----------------|-------------|----------------------|------------|----------|
| AXS1114542 | OptiPrep™ | 170 (hypotonic) | 1 x 250 mL | \$203.10 |

AXIS-SHIELD POLYMORPHPREP™

For isolation of human polymorphonuclear leucocytes

Polymorphonuclear leucocytes (PMNs) have a much greater buoyant density (>1.085g/mL) than mononuclear cells. The buoyant density of erythrocytes tends to be from 1.09-1.11g/mL. This makes polymorphonuclear leucocyte separation from whole blood using a density barrier difficult. Polymorphprep™ is a ready-made, sterile and endotoxin tested solution which has been developed in an effort to overcome these difficulties.

- Sodium diatrizoate 13.8% (w/v)
- Dextran 500 8.0% (w/v)
- Density 1.113g/mL ± 0.001g/mL
- Osmolality 445 ± 15 mOsm
- Endotoxins <1.0 EU/mL



| Product Number | Description | Pkg Size | Price |
|----------------|----------------|------------|---------|
| AXS1114683 | Polymorphprep™ | 1 x 250 mL | \$77.60 |



PLATYPUS ORIS™ CELL MIGRATION ASSAY

Adherent cell migration without cell culture inserts

The Oris™ Cell Migration Assay* is designed with a unique cell seeding stopper, detection mask, and stopper tool. There is no Transwell® membrane insert needed. This unique plate design generates highly reproducible results using a microscope, digital imaging system or fluorescence plate reader. The Oris™ Cell Migration Assay is an ideal alternative to the scratch assay since the cell seeding stoppers create a consistent detection zone to monitor 2-D closure. Simply adhere the seeded cells in each well, remove the stopper to create a detection zone, and measure the migration. Oris™ assays are available with tissue culture treated plates, Collagen I coated plates, Fibronectin coated plates, or a TriCoated** version that contains all 3 surfaces. Wound healing assays are normally performed using a scratch assay, which has high variability.

All kits include: Oris™ 96-well plate(s) with Oris™ Cell Seeding Stopper(s); Oris™ Detection Mask, 1; Oris™ Stopper Tool, 1

Features

- **Membrane-free Migration** - No cumbersome cell culture inserts; stain and view cells in the same well
- **Reproducible Results** - The unique design provides well-to-well CVs < 12%
- **Preserve Cell Morphology** - Changes in cell structure can be monitored in real time
- **Versatile** - Analyze data using multiple probes in a single well using a microscope, digital imager, or fluorescence plate reader
- **Flexible** - Design kinetic or endpoint based cell migration assays without the use of special instrumentation

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| PPCMA1101 | Oris™ Cell Migration Assay | 1 plate | \$265.80 |
| PPCMA5101 | Oris™ Cell Migration Assay | 5 plate | 1,256.50 |
| PPCMACC1101 | Oris™ Cell Migration Assay — Collagen I Coated | 1 plate | 277.90 |
| PPCMACC5101 | Oris™ Cell Migration Assay — Collagen I Coated | 5 plate | 1,323.00 |
| PPCMAFN1101 | Oris™ Cell Migration Assay — Fibronectin Coated | 1 plate | 290.00 |
| PPCMAFN5101 | Oris™ Cell Migration Assay — Fibronectin Coated | 5 plate | 1,359.20 |
| PPCMATR1101 | Oris™ Cell Migration Assay — TriCoated** | 1 plate | 302.10 |
| PPCMATR5101 | Oris™ Cell Migration Assay — TriCoated** | 5 plate | 1,341.10 |
| PPCMAIRT | Oris™ Stopper Tool | 1 | 24.20 |
| PPCMAMM | Oris™ Detection Mask | 5 | 42.30 |

* Patent Pending. Oris™ is a trademark of Platypus Technologies, LLC.

** TriCoated (Tissue Culture Treated, Collagen I Coated, Fibronectin Coated).

Transwell® is a registered trademark of Corning, Inc.

PLATYPUS ORIS™ PRO CELL MIGRATION ASSAY

The Oris™ Pro Cell Migration Assays (Tissue Culture Treated or Collagen I Coated) are a 2nd generation Oris™ product in which the Oris™ Cell Seeding Stoppers have been replaced by a dissolving Biocompatible Gel (BCG). The BCG creates an annular monolayer of cells with a cell-free, central area into which cell migration can occur. The Oris™ Pro Cell Migration Assay enables the use of automated liquid handling equipment for cell seeding and allows unrestricted access to cells throughout the experiment. Readout can be performed in real-time using inverted microscopes and High Content Screening (HCS)/High Content Imaging (HCI) instruments.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| PPPROCMA1 | Oris™ Pro Cell Migration Assay - Tissue Culture Treated | 1 plate | \$174.00 |
| PPPROCMA5 | Oris™ Pro Cell Migration Assay - Tissue Culture Treated | 5 plate | 811.80 |
| PPPROCMA1C1 | Oris™ Pro Cell Migration Assay - Collagen I Coated | 1 plate | 187.30 |
| PPPROCMA1C5 | Oris™ Pro Cell Migration Assay - Collagen I Coated | 5 plate | 875.90 |

PLATYPUS ORIS™ CELL MIGRATION ASSEMBLY KIT

Get creative with your cell migration, invasion, and 2-D closure assays!

Platypus Technologies has developed a product line that gives researchers more control over designing a cell migration assay. The Oris™ Universal Cell Migration Assembly Kit is an ideal alternative to the scratch assay for studying wound healing. The detection zone created by the Oris™ stopper provides a consistent area for a 2-D closure assay.

Features

- **Flexible Evaluation** - Perform partial plate experiments without compromising sterility or integrity of the plate with the NEW! FLEX kit
- **More Data Per Well** - Analyze cells using multiple fluorescent probes, labels or stains by using a microplate reader, microscope or high content imaging system
- **Creative Assay Design** - Coat any ECM or BME on the plate to create a 2-D or 3-D environment for cell migration or cell invasion assays
- **Reproducible Results** - Achieve lower well-to-well CV's with the unique Oris™ assay design than with scratch assays.
- **Real-time Monitoring** - Track changes in cell movement and morphology as cell migration or invasion progresses
- **HTS and HCS Compatibility** - Observe cells directly without interference from cell culture inserts or transmembrane devices

All kits include: Oris™ Detection Mask, 1; Oris™ Stopper Tool, 1

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| PPCMAUFL4 | Oris™ Cell Migration Assembly Kit - FLEX Includes: Oris™ compatible, 96-well plates, 4; Oris™ Cell Seeding Stoppers, 4 packs of 24* (Sufficient materials for 96 tests) | Kit | \$326.20 |
| PPCMAU101 | Oris™ Universal Cell Migration Assembly Kit Includes: Oris™-compatible, 96-well plate (black, clear bottom), 1; Oris™ Cell Seeding Stoppers, 96 | 1-pack | 265.80 |
| PPCMAU505 | Oris™ Universal Cell Migration Assembly Kit Includes: Oris™-compatible, 96-well plates (black, clear bottom), 5; Oris™ Cell Seeding Stoppers, 5 x 96 | 5-pack | 1,256.50 |
| PPCMAIRT | Oris™ Stopper Tool | 1 | 24.20 |
| PPCMAMM | Oris™ Detection Mask | 5 | 42.30 |

PLATYPUS ORIS™ INVASION AND DETECTION ASSAY KIT

View Cell Invasion in 3-D!

The Oris™ Cell Invasion & Detection Assay offers a more versatile method for quantitating and imaging cells invading through an extracellular matrix (ECM) compared to a Boyden chamber device or membrane cell culture insert. Using Oris™ Cell Seeding Stoppers to create an invasion zone at the bottom of a microplate well, researchers can detect cell invasion in a 3-dimensional overlay of a Basement Membrane Extract (BME) component and monitor cell movement in real-time.

Features

- **Membrane-free Cell Invasion** - No cumbersome cell culture inserts or Transwell® membrane devices to limit cellular movement; there is no membrane to block live images of the cell
- **Preserve Cell Morphology** - Provides a more native 3-D environment since cells do not have to penetrate through a polycarbonate membrane
- **Real-time Monitoring** - Changes in cell structure can be monitored in real-time with a microscope, digital imaging system or fluorescence plate reader (Calcein AM Reagent provided in kit)
- **Versatile** - Analyze cells using multiple fluorescent probes, labels or colourimetric stains in a single well
- **Flexible** - Design kinetic or endpoint assays without the use of special instrumentation

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| PPCIA101DE | Oris™ Cell Invasion and Detection Assay Kit Includes: Oris™ Compatible, 96-well plate, 1 Oris™ Cell Seeding Stoppers, 96 Oris™ Detection Mask, 1 Oris™ Stopper Tool, 1 Oris™ Basement Membrane Extract (BME), 1 x 5 mL Calcein AM Reagent, 1 x 20 µL | 1-pack | \$607.50 |
| PPCIA200DE | Oris™ Cell Invasion and Detection Assay Kit | 2-pack | 1,101.10 |
| PPCMAIRT | Oris™ Stopper Tool | 1 | 24.20 |
| PPCMAMM | Oris™ Detection Mask | 5 | 42.30 |

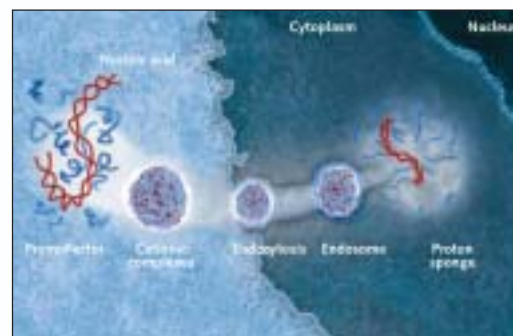
Oris™ is a trademark of Platypus Technologies, LLC
Transwell® is a registered trademark of Corning, Inc.

PROMOKINE PROMOFECTIN TRANSFECTION REAGENTS

PromoFectin is a non-liposomal transfection reagent based on a water-soluble, cationic polymer. First, it delivers DNA into the cytosol where the DNA is almost completely released, then PromoFectin promotes DNA trafficking to the cell nucleus. PromoFectin functions with both adherent and nonadherent cells with a high degree of reproducibility. PromoFectin has been used successfully with many problematic cell lines and sensitive primary cells.

PromoFectin Feature and Benefits

- Efficient transfection
- Suited for cell lines and primary cells
- Works in the presence of serum and antibiotics
- Gentle to sensitive cells



PromoFectin Specific Reagents

PromoFectin-HUVEC

A PromoFectin derivative optimized for the transfection of primary endothelial cells such as HUVEC and HDMEC. It shows very little cytotoxicity and enables very high transfection rates.

PromoFectin-Hepatocyte

A ligand-conjugated derivative of PromoFectin specialized for hepatocyte transfection (e.g. human and murine hepatocytes, hepatocyte cell lines, and hepatocarcinoma cells). The reagent/nucleic acid complexes bind specifically to surface receptors on the target cells leading to extremely high transfection rates.

PromoFectin-Neuron

A cationic, polymer-based transfection reagent created for the transfection of primary neuronal cells, glial cells, and neuronal cell lines. Cells take up the polymer/DNA complex through endocytosis, where the polymer is biodegraded into non-toxic molecules. Compared to viral methods, PromoFectin-Neuron allows less complicated nucleic acid delivery with high transfection rates.

PromoFectin-Insect

A unique, liposome-based transfection reagent optimized for nucleic acid delivery into insect cells, especially those derived from *Spodoptera frugiperda* (e.g. Sf9 or Sf21). It outperforms other insect cell transfection reagents in comparison studies and requires less DNA. PromoFectin-Insect demonstrates broad vector delivery capability, excellent reproducibility, and high expression levels for small- or large-scale protein production.

PromoFectin-Oligo

A novel transfection reagent intended for the delivery of oligonucleotides into a wide variety of cell types. Unlike similar reagents, it shows low cytotoxicity and excellent transfection efficiency.

PromoFectin-siRNA

A cationic, lipid-based transfection reagent designed for the highly efficient delivery of siRNA into a wide variety of cell types, including problematic cell lines and primary cells. It enables optimal gene silencing with low cytotoxicity.

PromoFectin-Polypeptide

PromoFectin-Polypeptide is a novel reagent created for the highly efficient delivery of proteins and polypeptides (e.g. blocking peptides and labeled antibodies) into a wide variety of cells. It captures protein molecules and transports them into the cytosol of living cells while maintaining the protein's structure. This allows researchers to study intracellular protein functions without the need for DNA cloning and DNA transfection.

| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------|----------|---------|
| PKCT200010 | PromoFectin | 0.1 mL | \$49.00 |
| PKCT200050 | PromoFectin | 0.5 mL | 179.00 |
| PKCT2000100 | PromoFectin | 1.0 mL | 279.00 |
| PKCT2000HUV10 | PromoFectin-HUVEC | 0.1 mL | 129.00 |
| PKCT2000HUV50 | PromoFectin-HUVEC | 0.5 mL | 399.00 |
| PKCT2000HEP10 | PromoFectin-Hepatocyte | 0.1 mL | 129.00 |
| PKCT2000HEP50 | PromoFectin-Hepatocyte | 0.5 mL | 399.00 |
| PKCT2000NEU075 | PromoFectin-Neuron | 0.75 mL | 439.00 |
| PKCT2000INC100 | PromoFectin-Insect | 1.0 mL | 179.00 |
| PKCT2000OLI050 | PromoFectin-Oligo | 0.5 mL | 129.00 |
| PKCT2000OLI100 | PromoFectin-Oligo | 1.0 mL | 229.00 |
| PKCT2000RNA50 | PromoFectin-siRNA | 50 rxns | 149.00 |
| PKCT2000RNA200 | PromoFectin-siRNA | 200 rxns | 349.00 |
| PKCT2000POL24 | PromoFectin-Polypeptide | 24 rxns | 319.00 |

PROMOKINE MAGNET-ASSISTED TRANSFECTION (MATra) REAGENTS

Magnet Assisted Transfection (MATra) is a very fast and highly efficient technology for transfecting cells in culture. It can be used for adherent and, in combination with the MATra-S Immobilizer, suspension cells from a broad variety of species. The major components of MATra are coated magnetic nanoparticles, which effectively bind either nucleic acids or liposomes. Using a special magnet plate, the nanoparticles with the bound nucleic acids or liposomes are rapidly drawn towards the cells and are deposited at a high concentration on the outer cell membrane. Afterwards, the cells endocytose the particles, which leads to a high transfection rate even with problematic cells. To perform Magnet Assisted Transfection, specially designed neodymium magnet plates are necessary. PromoKine offers them in different sizes, optimized for different cell culture vessels.

MATra Features and Benefits

- Efficient high dose transfection
- Fast procedure
- Suited for cell lines and primary cells
- Works in the presence of serum and antibiotics



MATra-A Reagent

The MATra-A Reagent contains coated magnetic nanoparticles, which effectively bind nucleic acids (e.g. plasmid DNA or oligonucleotides) due to an innovative polyelectrolyte coating.

MATra-siRNA Reagent

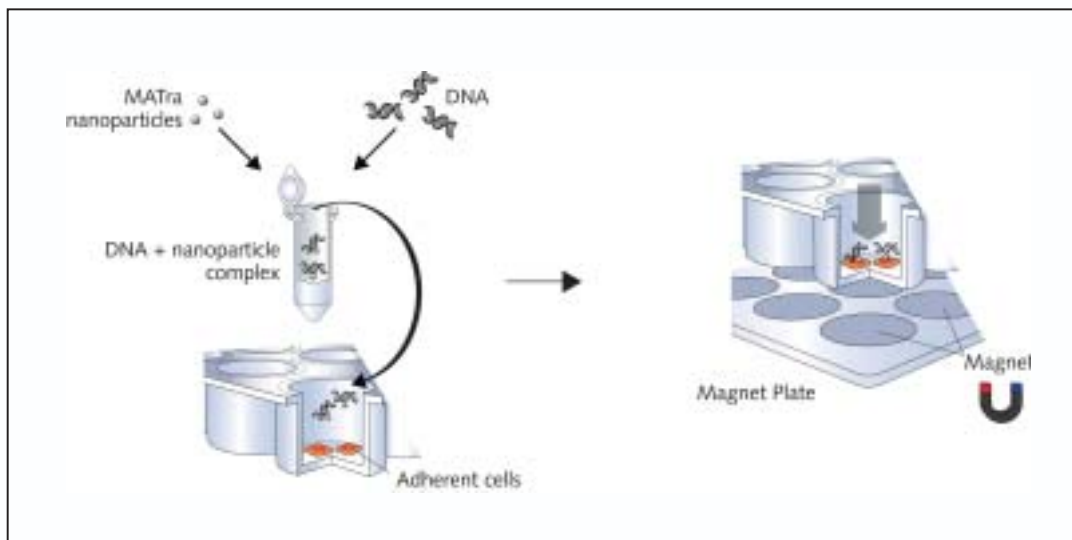
The MATra-siRNA Reagent contains specifically coated magnetic nanoparticles, which are optimized to effectively bind and stabilize siRNA (small interfering RNA).

MA Lipofection Enhancer

The MA Lipofection Enhancer contains coated magnetic nanoparticles, which bind liposomes and any polycationic transfection reagents (e.g. PromoFectin) which in turn bind nucleic acids (e.g. plasmid DNA, oligonucleotides, siRNA). Using the MA Lipofection Enhancer, cells are transfected more efficiently than with liposomal or polycationic transfection reagents alone.

MATra-S Immobilizer

The MATra-S Immobilizer contains coated magnetic nanoparticles, which bind suspension cells. Using a special magnet plate, the magnetic nanoparticles with the bound cells are rapidly drawn towards the bottom of the cell culture vessel, where they are immobilized. By combining the MATra-S Immobilizer with the other MATra reagents, suspension cells can also be transfected conveniently.



| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------|----------|---------|
| PKCT2001005 | MATra-A Reagent | 50 µL | \$69.00 |
| PKCT2001020 | MATra-A Reagent | 200 µL | 219.00 |
| PKCT2001100 | MATra-A Reagent | 1.0 mL | 879.00 |
| PKCT2021005 | MATra-siRNA Reagent | 50 µL | 69.00 |
| PKCT2021020 | MATra-siRNA Reagent | 200 µL | 219.00 |
| PKCT2021100 | MATra-siRNA Reagent | 1.0 mL | 879.00 |
| PKCT2003005 | MA Lipofection Enhancer | 50 µL | 39.00 |
| PKCT2003020 | MA Lipofection Enhancer | 200 µL | 110.00 |
| PKCT2003100 | MA Lipofection Enhancer | 1.0 mL | 439.00 |

PROMOKINE DNA FRAGMENTATION DETECTION KITS

Features

- High sensitivity
- Appropriate for various multiwell formats and automation
- Compatible with standard lab equipment

Applications

- Detect fragmented nucleosomal DNA
- Screening for apoptotic cells
- Fluorescence microscopy
- Flow cytometry



Fluorometric DNA Fragmentation Detection Kits I and II (BrdU)

The PromoKine DNA Fragmentation Detection Kits I and II are based on the TUNEL method and identify DNA strand breaks occurring during apoptosis. The kits provide all required components - including positive and negative control cells and tissue slides - for convenient detection of DNA fragmentation by fluorescence microscopy or flow cytometry. The TUNEL assay employs a terminal deoxynucleotidyl transferase (TdT) to add Br-dUTP (brominated deoxyuridine triphosphate nucleotides) to the fragmented DNA strands. Br-dUTP is more readily incorporated into DNA strand breaks than other larger ligands (e.g., fluorescein, biotin or digoxigenin). The greater incorporation gives rise to a brighter signal when the Br-dUTP sites are identified by a green-fluorescent (Kit I) or red-fluorescent (Kit II) labeled anti-BrdU monoclonal antibody. The labeled DNA can then be observed by fluorescence microscopy or analyzed by flow cytometry. The DNA Fragmentation Kit II works also very well with GFP transfected cells.

Fluorometric DNA Fragmentation Detection Kit III (F-dUTP)

The Fluorometric DNA Fragmentation Detection Kit III is a modified TUNEL assay and provides all reagents required for the specific detection of apoptotic cells within a cell population in tissue sections and fixed cell preps. The kit utilizes terminal deoxynucleotidyl transferase (TdT) to catalyze incorporation of fluorescein-12-dUTP at the free 3'-hydroxyl ends of the fragmented DNA. The fluorescein-labeled DNA can then be observed by fluorescence microscopy or analyzed by flow cytometry.

Colourimetric DNA Fragmentation Detection Kit (IHC)

The ready-to-use, TUNEL-based Colourimetric DNA Fragmentation Detection Kit (IHC) has been specifically designed for convenient detection of DNA fragmentation in tissue sections and fixed cell preps. It includes positive and negative control slides and utilizes Br-dUTP, biotin-labeled anti-BrdU antibodies and HRP-streptavidin conjugate. Immunohistochemical staining results can be microscopically analyzed.

Apoptotic DNA Ladder Detection Kit I

The Apoptotic DNA Ladder Detection Kit I provides an easy and sensitive means for detecting DNA fragmentation in apoptotic cells. The method requires less than 90 minutes to prepare the DNA, without the need for extraction or columns. DNA fragmentation can then easily be visualized by agarose gel electrophoresis. The procedure increases recovery of small fragmented DNA, and therefore improves the sensitivity of the assay. The assay can be used to detect apoptotic DNA ladders, extracting both genomic DNA and ladder DNA.

Apoptotic DNA Ladder Detection Kit II

Using the Apoptotic DNA Ladder Extraction Kit II allows to selectively isolate DNA ladders without interference of regular genomic DNA. Apoptotic DNA ladders from both tissues and cells with as little as 5% or less apoptotic cell population can be detected. The kit specifically extracts ladder DNA, not genomic DNA.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| PKCA577K120 | Apoptotic DNA Ladder Detection Kit I, 50 assays For fast and sensitive detection of DNA fragmentation in apoptotic cells | Kit | \$329.00 |
| PKCA577K130 | Apoptotic DNA Ladder Detection Kit I Plus, 50 assays For fast and sensitive detection of DNA fragmentation in apoptotic cells | Kit | 449.00 |
| PKCA577K170 | Apoptotic DNA Ladder Detection Kit II, 50 assays For sensitive detection of apoptotic DNA ladder in both tissue and cells | Kit | 449.00 |
| PKCA577K403 | Colourimetric DNA Fragmentation Detection Kit, 50 assays (IHC) TUNEL-based immunohistochemical staining kit including positive and negative control slides for convenient detection of DNA fragmentation in tissue sections and fixed cell preps | Kit | 679.00 |
| PKCA577K401 | Fluorometric DNA Fragmentation Detection Kit I, 60 assays (BrdU) TUNEL-based assay kit for convenient detection of DNA fragmentation in cultured cells and tissue sections | Kit | 579.00 |
| PKCA577K404 | Fluorometric DNA Fragmentation Detection Kit II, 60 assays (BrdU) TUNEL-based assay kit provides for convenient detection of DNA fragmentation in cultured cells and tissue sections | Kit | 599.00 |
| PKCA577K402 | Fluorometric DNA Fragmentation Detection Kit III, 50 assays (F-dUTP) TUNEL-based assay kit for convenient detection of DNA fragmentation in cultured cells and tissue sections (one-step labeling of apoptotic cells) | Kit | 599.00 |

PROMOKINE Cytochrome c APOPTOSIS DETECTION KIT

Features

- Non radioactive method
- Easy and fast procedure
- No toxic chemicals necessary

Applications

- Screening for apoptotic cells
- Analysis of apoptotic signal cascades



Cytochrome c has been shown to play an important role in apoptosis. The protein is located in the space between the inner and outer mitochondrial membranes. An apoptotic stimulus triggers the release of cytochrome c from the mitochondria into the cytosol where it binds to Apaf-1. The cytochrome c/Apaf-1 complex activates caspase-9 which then activates caspase-3 and other downstream caspases of the apoptotic cascade. The PromoKine Cytochrome c Apoptosis Detection Kit provides an effective means for detecting cytochrome c translocation from mitochondria into cytosol during apoptosis. The kit provides an easy-to-use procedure and unique reagents for separating a highly enriched mitochondria fraction from cytosol. Cytochrome c released from mitochondria into cytosol is then determined by Western blotting using the cytochrome c antibody provided in the kit. The procedure is very simple and straightforward - no ultracentrifugation is required and no toxic chemicals are involved.

PROMOKINE MITOCHONDRIAL APOPTOSIS STAINING KIT

Features

- Optimal sensitivity due to high fluorescence intensity
- Appropriate for various multiwell formats and automation
- Excitation and emission spectra are compatible with common excitation sources and filter sets

Applications

- Screening for early apoptotic cells
- Fluorescence microscopy
- Flow cytometry

Disruption of mitochondrial transmembrane potential is one of the earliest intracellular events that occurs upon induction of apoptosis. The Mitochondrial Apoptosis Staining Kit provides a simple and sensitive, fluorescent-based *in vitro* assay for detecting the mitochondrial changes in apoptosis and distinguishing between healthy and apoptotic cells. The assay utilizes a novel cationic dye (called MitoCapture™) that fluoresces differently in healthy versus apoptotic cells. In healthy cells, MitoCapture™ accumulates and aggregates in the mitochondria - fluorescing brightly red. In apoptotic cells, a shift in mitochondrial transmembrane potential prevents the dye from accumulating in the mitochondria. Instead it remains in the cytoplasm in its monomer form - fluorescing green. The fluorescent signals can be easily detected by fluorescence microscopy or flow cytometry using common filters and channels, respectively (FITC, rhodamine, PI). The assay takes approximately 20 minutes, is highly sensitive and detects apoptosis reliably in living cells.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| PKCA577K257 | Cytochrome c Apoptosis Detection Kit, 100 assays Detects cytochrome c translocation from mitochondria into cytosol during apoptosis | Kit | \$499.00 |
| PKCA577K25025 | Mitochondrial Apoptosis Staining Kit, 25 assays Highly sensitive assay - detecting apoptosis in living cells | Kit | 229.00 |
| PKCA577K250100 | Mitochondrial Apoptosis Staining Kit, 100 assays Highly sensitive assay - detecting apoptosis in living cells | Kit | 449.00 |
| PKCA5771065 | MitoCapture Incubation Buffer | 200 mL | 195.00 |
| PKRP5772120100 | Cytochrome c | 100 mg | 149.00 |

PROMOKINE GLUTATHIONE DETECTION

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| PKCA577K251 | Fluorometric Glutathione Detection Kit, 100 assays For detecting the GSH changes in apoptosis and other pathological processes | Kit | \$449.00 |
| PKCA577K261 | Colourimetric Glutathione Detection Kit, 100 assays For detecting the GSH changes in apoptosis and other pathological processes | Kit | 499.00 |
| PKCA577K761 | Colourimetric Glutathione Reductase Activity Kit, 200 assays Colourimetric quantitation of glutathione reductase activity | Kit | 399.00 |

PROMOKINE APOPTOTIC AND NECROTIC CELL DIFFERENTIATION

Fast and convenient detection of apoptotic and necrotic cells

U937 cells treated with an apoptosis inducing agent were analyzed using the Apoptotic/Necrotic/Healthy Cells Detection Kit. Apoptotic cells are stained green while necrotic cells show red fluorescence and healthy cells fluoresce blue.



Features

- Convenient simultaneous detection apoptotic and necrotic - as well as healthy cells - in a single assay
- Fast, one-step procedures - assays completed within 15 minutes
- Optimized sensitivity

Apoptosis and necrosis are the two major processes leading to cell death. Apoptosis is an active, genetically regulated "cell suicide" induced by diverse factors. This disassembly of the cell creates multiple events and is associated e.g. with changes in the phospholipid content of the outer leaflet of the cytoplasmic membrane. Phosphatidylserine (PS) is translocated from the inner to the outer surface of the cell for phagocytic cell recognition. Thus, apoptotic cells can be easily and reliably identified with Annexin V, a phospholipid protein with a high affinity for PS, that binds specifically to the PS exposed on the outer membrane leaflet of apoptotic cells. When Annexin V is labeled e.g. with fluorescein (FITC) apoptotic cells are stained brightly green.

Necrosis normally results from a severe cellular insult. Since both internal organelle and plasma membrane integrity are lost, cytosolic and organellar contents are released into the surrounding environment. Ethidium homodimer III (EtD-III) is a nucleic acid probe, which is impermeant to live or apoptotic cells, but stains necrotic cells intensively with red fluorescence. Due to its significantly higher affinity for DNA and higher fluorescence quantum yield, EthD-III is a superior alternative to propidium iodide (PI) or ethidium homodimer I (EthD-I) commonly used in some other cell staining kits.

The PromoKine Apoptotic/Necrotic Cells Detection Kit provides a convenient assay for quantifying apoptotic (green) and necrotic (red) cells within the same cell population by flow cytometry or fluorescence microscopy.

The PromoKine Apoptotic/Necrotic/Healthy Cells Detection Kit additionally includes a membrane-permeant blue fluorescent DNA stain (Hoechst 33342) for quantifying the healthy cell population. Thus, this kit allows simultaneous quantification of apoptotic (green), necrotic (red) and healthy cells (blue) within the same cell population by flow cytometry or fluorescence microscopy.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| PKCA70730017 | Apoptotic/Necrotic Cells Detection Kit, 50 assays Fast and sensitive simultaneous detection and quantitation of apoptotic and necrotic cells in a single assay | Kit | \$239.00 |
| PKCA70730018 | Apoptotic/Necrotic/Healthy Cells Detection Kit, 50 assays Fast and sensitive simultaneous detection and quantitation of apoptotic, necrotic and healthy cells in a single assay | Kit | 249.00 |

PROMOKINE APOPTOTIC CELL ISOLATION KIT

Benefits

- Fast, simple and efficient
- Ready-to-use, complete kit

Applications

- Isolation of apoptotic cells
- Removal of dead cells from culture

The PromoKine Apoptotic Cell Isolation Kit provides a simple and efficient means for isolation of apoptotic cells or removal of dead cells from cell culture or tissue preparations using Annexin V magnetic beads (MagBeads). Since Annexin V is a phospholipid-binding protein with high affinity for phosphatidylserine (PS), it binds strongly to PS that is redistributed from the inner to the outer surface of plasma membrane during apoptosis. Binding of Annexin V-biotin to apoptotic cells is followed by binding of the biotin to streptavidin-MagBeads enabling separation of apoptotic cells from normal cells. The apoptotic cells bound to the MagBeads adhere to the magnet - while normal cells stay in suspension. The bound apoptotic cells can then be released from the MagBeads using the Elution Buffer provided in the kit. The separated apoptotic cells and normal cells can be used in a variety of assays to study apoptotic mechanisms and pathways. The kit has also been successfully used to remove dead cells from normal culture. A re-usable magnetic separator designed for that kit is also available.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| PKCA577K258 | Apoptotic Cell Isolation Kit, 30 isolations Isolation of apoptotic cells from normal culture using annexin V magnetic beads (MagBeads) | Kit | \$449.00 |
| PKCA577K19991 | Magnetic Separator (re-usable) Uses in conjunction with the Apoptotic Cell Isolation Kit | 1 unit | 299.00 |

PROMOKINE ANNEXIN V DETECTION

Features

- High fluorescence intensity and sensitivity
- Many different labels and tags available
- Appropriate for various multiwell formats and automation
- Excitation and emission spectra are compatible with common excitation sources and filter sets



Applications

- Screening for apoptotic cells
- Differentiating apoptotic and necrotic cells
- Annexin detection
- Flow cytometry
- Fluorescence microscopy

In the early stages of apoptosis, changes can be observed on the cell surface: Cells lose their phospholipid membrane asymmetry and expose phosphatidylserine (PS) on the exterior plasma membrane. Annexin V is a Ca^{2+} -dependent, phospholipid-binding protein with high affinity for phosphatidylserine (PS) and is thus very useful for identifying apoptotic cells exposing PS on the cell surface to the extracellular environment. Annexin V may be conjugated to biotin or fluorophores such as FITC and phycoerythrin (PE) or it may be tagged with EGFP (Enhanced Green Fluorescent Protein). Since Annexin V conjugates or tagged Annexins retain their high affinity for PS, they are ideally suited as highly sensitive probes to identify early apoptotic cells and to detect apoptosis much earlier than assays based on DNA fragmentation or loss of membrane integrity. The stained cells can be evaluated by flow cytometry or fluorescence microscopy using common filter sets and flow cytometer channels.

Annexin V Detection Kits

The Annexin V Apoptosis Detection Kits include an Annexin V conjugate or a tagged Annexin V, respectively, as well as binding buffer and partially also propidium iodide (PI) for differentiating between early apoptotic and necrotic cells. The kits allow a one-step staining procedure that takes only 10 minutes. In addition, the assay can be directly performed on living cells.

Promokine Annexin V Apoptosis Detection Kit Plus includes an additional dye, SYTOX green, that is impermeant to live and apoptotic cells, but stains necrotic cells with intense green fluorescence by binding to cellular nucleic acids. After staining a cell population with e.g. fluorescent Annexin V-Cy3 or Annexin V-PE conjugates and SYTOX Green dye in the provided binding buffer, apoptotic cells show red fluorescence, dead cells show green fluorescence and live cells show little or no fluorescence. These populations can easily be distinguished by fluorescence microscopy using the appropriate filters.

Individual Annexin V Reagents

PromoKine also offers a wide range of Annexin V reagents separately. For easy staining of early apoptotic cells, Annexin V conjugated to FITC, PE, Cy3, Cy5 and biotin are available, as well as Annexin V tagged with EGFP. The stained cells can be evaluated by flow cytometry or fluorescence microscopy using common filter sets and flow cytometer channels. Biotinylated Annexin V can be detected in conjunction with conventional dye-staining using any streptavidin- or avidin-dye reagents, such as our PromoFluor-streptavidin/avidin conjugates, fluorescein-, PE- or APC-streptavidin as well as streptavidin/avidin conjugated to peroxidase, alkaline phosphatase (AP), β -gal, etc.

| Product Number | Description | Pkg Size* | Price |
|----------------|---|-----------|----------|
| PKCA577K10925 | Annexin V-Biotin Apoptosis Kit, 25 assays Detecting apoptosis in living cells by flow cytometry or fluorescence microscopy | Kit | \$229.00 |
| PKCA577K10225 | Annexin V-Cy3 Apoptosis Kit, 25 assays Detecting apoptosis in living cells by flow cytometry or fluorescence microscopy | Kit | 229.00 |
| PKCA577K20225 | Annexin V-Cy3 Apoptosis Kit Plus, 25 assays Detecting apoptosis in living cells by flow cytometry or fluorescence microscopy | Kit | 239.00 |
| PKCA577K10325 | Annexin V-Cy5 Apoptosis Kit, 25 assays Detecting apoptosis in living cells by flow cytometry or fluorescence microscopy | Kit | 229.00 |
| PKCA577K10425 | Annexin V-EGFP Apoptosis Kit, 25 assays Detecting apoptosis in living cells by flow cytometry or fluorescence microscopy | Kit | 229.00 |
| PKCA577K10125 | Annexin V-FITC Apoptosis Kit, 25 assays Detecting apoptosis in living cells by flow cytometry or fluorescence microscopy | Kit | 229.00 |
| PKCA577K20125 | Annexin V-FITC Apoptosis Kit Plus, 25 assays Simultaneous detection of apoptosis and necrosis by flow cytometry | Kit | 239.00 |
| PKCA577K12825 | Annexin V-PE Apoptosis Detection Kit, 25 assays Detecting apoptosis in living cells by flow cytometry or fluorescence microscopy | Kit | 249.00 |
| PKCA577K20325 | Annexin V-PE Apoptosis Kit Plus, 25 assays Detecting apoptosis in living cells by flow cytometry or fluorescence microscopy | Kit | 239.00 |
| PKCA577K12925 | Annexin V-PE-Cy5 Apoptosis Detection Kit, 25 assays Detecting apoptosis in living cells by flow cytometry or fluorescence microscopy | Kit | 279.00 |

*100 and 400 assay sizes also available. Please inquire.

DNA DAMAGE AND APOPTOSIS ASSAYS

PROMOKINE APOPTOSIS INDUCERS

Benefits

- High quality
- Ready-to-use

This is only a partial listing - please inquire.

Applications

- Induction of apoptotic effects
- Ideally suited for use with diverse apoptosis detection systems

PromoKine offers a selected choice of high quality apoptosis inducers, partially in ready-to-use form or in a convenient set. The apoptosis inducers are well characterized and effective e.g. in disrupting mitochondrial transmembrane potential and activating caspases as well as inducing phosphatidylserine (PS) exposure, DNA fragmentation and other apoptotic characteristics. All inducers are ideally suited for use with various PromoKine apoptosis detection systems. Diverse high quality antibodies, cytokines and growth factors that are involved in apoptosis as well as Apoptosis ELISAs are also available separately.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| PKCA577K1215 | Apoptosis Inducer Set contains 5 ready-to-use apoptosis inducers (Actinomycin D, Camptothecin, Cycloheximide, Dexamethasone, Etoposide) in a kit format | Kit | \$329.00 |
| PKCA577103650 | Actinomycin D (10 mM) Potent inducer of apoptosis in many cell lines — Ready-to-use | 50 µL | 119.00 |
| PKCA577154910 | Anisomycin Activator of p54 and MAP kinases; induces apoptosis e.g. in the human monoblastoid cell line | 10 mg | 159.00 |
| PKCA577155225 | Betulinic acid Anti-tumor and anti-HIV agent that induces apoptosis | 25 mg | 149.00 |
| PKCA57715605 | Brefeldin A Induces apoptosis via caspase activation | 5 mg | 299.00 |
| PKCA57710391 | Camptothecin (2 mM) Induces apoptosis in Jurkat, osteosarcoma and hepatoma cells — Ready-to-use | 1 mL | 119.00 |
| PKCA5771519 | Colchicine Induces apoptosis in PC-12 cells and cerebellar granule cells | 1 g | 139.00 |
| PKCA57710411G | Cycloheximide Induces apoptosis in a variety of cells but can also delay or inhibit apoptosis by other agents | 1 g | 169.00 |
| PKCA577152410 | Daunorubicin.HCl Induces DNA single strand breaks and apoptosis e.g. in HeLaS3 tumor cells | 10 mg | 139.00 |
| PKCA57710421 | Dexamethasone (10 mM) Induces apoptosis in human thymocytes — Ready-to-use | 1 mL | 119.00 |
| PKCA57715275 | Doxorubicin.HCl Anti-tumor antibiotic that induces apoptosis | 5 mg | 139.00 |
| PKCA5771043100 | Etoposide (10 mM) Induces apoptosis in human Tcells, HL-60 human leukemia cells — Ready-to-use | 100 µL | 119.00 |
| PKCA577153310 | Genistein Produces cell cycle arrest and apoptosis (>99% pure) | 10 mg | 139.00 |
| PKCA57715665 | Ionomycin (calcium salt) Useful in cell activation experiments when calcium dose-response data are not required (>90% pure) | 5 mg | 379.00 |
| PKCA578M110810 | Mitomycin C Inhibitor of DNA synthesis, nuclear division. Induces apoptosis in cancer cells | 10 mg | 159.00 |
| PKCA57715685 | Rapamycin Reported to induce apoptosis in a murine B cell line (>99%pure) | 5 mg | 299.00 |
| PKCA57715595 | Rosiglitazone Induces apoptosis in various cells, e.g. in vascular smooth muscle cells | 5 mg | 159.00 |
| PKCA5771048010 | Staurosporine Potent apoptosis inducer | 100 µg | 159.00 |
| PKCA5771551 | Tamoxifen citrate Induces apoptosis e.g. in human malignant glioma cell lines | 1 g | 159.00 |
| PKCA57715581 | Thapsigargin Induces apoptosis in rat thymocytes and in human hepatoma cells (>99% pure) | 1 mg | 159.00 |

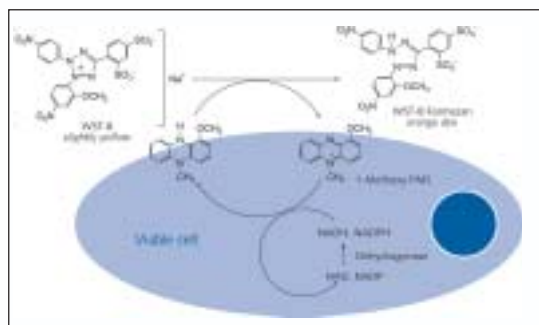
PROMOKINE CELL VIABILITY AND SENESCENCE DETECTION KITS

Applications

- Cell viability and proliferation assays
- Growth factor / cytokine assays
- Optimization of cell culture conditions
- Cell number determination
- Detection of senescent cells

Benefits

- Highly sensitive and robust assays
- Non-radioactive methods
- Easy and fast procedures
- Reliable and reproducible results
- Appropriate for various multiwell formats and automation
- Excitation and emission spectra are compatible with common spectrophotometers/ plate readers



PromoKine offers six types of cell viability kits: The Fluorometric Cell Viability Kits I and II, the Colorimetric Cell Viability Kits I, II III and IV and the Bioluminescent Cell Viability Kits I and II. Since all kits are designed for use with various multiwell formats, they are also suited for automation. In addition, PromoKine also offers a range of high-quality, economically priced tetrazolium salts for preparing your own cell counting, proliferation and cytotoxicity assays including INT, MTT, XTT and different WST salts.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| PKCA577K2541K | Bioluminescent Cell Viability Kit I (ATP) This kit utilizes bioluminescent detection of the ATP level via luciferase catalyzed reaction for a rapid screening of apoptosis and cell viability in mammalian cells, 1000 assays | Kit | \$549.00 |
| PKCA577K254200 | Bioluminescent Cell Viability Kit I (ATP) This kit utilizes bioluminescent detection of the ATP level in a luciferase catalyzed reaction for a rapid screening of apoptosis and cell viability in mammalian cells, 200 assays | Kit | 219.00 |
| PKCA577K255 | Bioluminescent Cell Viability Kit II (ADP/ATP) Assay for detecting ADP/ATP ratios for a rapid screening of apoptosis/necrosis/growth arrest/cell proliferation simultaneously in mammalian cells, 200 assays | Kit | 449.00 |
| PKCA705CK04 | Colourimetric Cell Viability Kit I (WST-8) Colorimetric cell viability and cytotoxicity detection, 500 assays | Kit | 139.00 |
| PKCA577K30125C | Colourimetric Cell Viability Kit II (WST-1) Fast and sensitive cell proliferation assay using WST-1, 2500 assays | Kit | 499.00 |
| PKCA577K301500 | Colourimetric Cell Viability Kit II (WST-1) Fast and sensitive cell proliferation assay using WST-1, 500 assays | Kit | 219.00 |
| PKCA203001000 | Colourimetric Cell Viability Kit III (XTT) Cell Proliferation & Cytotoxicity Assay Kit, 1000 assays | Kit | 179.00 |
| PKCA70730006 | Colourimetric Cell Viability Kit IV (MTT) Cell Proliferation & Cytotoxicity Assay Kit, 1000 assays | Kit | 199.00 |
| PKCA705CV06 | Fluorometric Cell Viability Kit I (ATP) Fluorometric cell viability and cytotoxicity detection, 200 assays | Kit | 245.00 |
| PKCA705CK06 | Fluorometric Cell Viability Kit II (Calcein) Fluorometric cell viability and cytotoxicity detection, 500 assays | Kit | 199.00 |
| PKCA707300251 | Fluorometric Cell Viability Kit III (Resazurin) Fluorometric cell viability and cytotoxicity detection, 25 mL (2500 assays) | Kit | 179.00 |
| PKCA707300252 | Fluorometric Cell Viability Kit III (Resazurin) Fluorometric cell viability and cytotoxicity detection, 100 mL (10000 assays) | Kit | 349.00 |
| PKCA577K320 | Senescence Detection Kit Specific detection of senescence marker in distinct pH in cultured cells and tissue sections, 250 assays | Kit | 329.00 |
| PKCA70710054 | Resazurin, sodium salt Can be used for measuring cell proliferation and mitochondrial metabolic activity | 10 mg | 159.00 |

ENZO® LIFE SCIENCES CELLestial™ LIVE CELL ANALYSIS DYES REFERENCE CHART

| Fluor | Emission | Ex/Em In nm | Kit | Product Number | Price |
|---|-------------|-----------------------------|--|----------------|----------|
| • Nucleolar-ID™ Green Detection Reagent | Blue/Green | 450/481 | Nucleolar-ID™ Green Detection Kit, 500 reactions | ENZ51009500 | \$220.80 |
| | | | Nucleolar-ID™ Green/Red Nucleolar/Nuclear Detection Kit, 500 reactions | ENZ51006500 | 295.00 |
| • FluoForte™ Reagent | Green | 490/514 | FluoForte™ Calcium Assay Kit – for microplates (starter pack) | ENZ51017 | 752.10 |
| | | | FluoForte™ Calcium Assay Kit – for microplates (high throughput) | ENZ51016 | 3,927.10 |
| • Mito-ID™ Membrane Potential Reagent | Green | 510/525,590 (Dual Emission) | Mito-ID™ Membrane Potential Cytotoxicity Kit | ENZ51019KP002 | 298.90 |
| | | | Mito-ID™ Membrane Potential Detection Kit | ENZ51018K100 | 516.50 |
| • Nuclear-ID™ Green Detection Reagent | Green | 503/531 | Nuclear-ID™ Green Cell Cycle Analysis Kit | ENZ51014100 | 366.50 |
| | | | Nuclear-ID™ Green Chromatin Condensation Detection Kit | ENZ51021K200 | 342.60 |
| • GFP-Certified™ FluoForte™ Reagent | Red-shifted | 530/570 | GFP-Certified™ FluoForte™ Calcium Assays Kits | ENZ51020KP010 | 752.10 |
| • Lyso-ID™ Red Detection Reagent | Red | 568/667 | Lyso-ID™ Red Detection Kit | ENZ51005500 | 285.60 |
| • Mito-ID™ Red Detection Reagent | Red | 558/690 | Mito-ID™ Red Detection Kit | ENZ51007500 | 285.60 |
| • Nuclear-ID™ Red Detection Reagent | Red | 568/637 | Nuclear-ID™ Red Cell Cycle Analysis Kit | ENZ51008100 | 366.50 |
| | | | Total Nuclear-ID™ Green/Red Nucleolar/Nuclear Detection Kit | ENZ51006500 | 295.00 |
| • Nuclear-ID™ Red Detection Reagent | Red | 568/637 | Total Nuclear-ID™ Green/Red Nucleolar/Nuclear Detection Kit | ENZ51006500 | 295.00 |
| • Nucleolar-ID™ Green Detection Reagent | Blue/Green | 450/481 | Total Nuclear-ID™ Green/Red Nucleolar/Nuclear Detection Kit | ENZ51006500 | 295.00 |
| • Annexin V-cyanine 3 | Yellow | 550/570 | Apoptosis/Necrosis Detection Kit | ENZ51002100 | 349.00 |
| • Red Necrosis Stain | Red | 546/647 | | | |
| • GFP | Green | 488/509 | | | |
| • Oxidative Stress Detection Reagent | Green | 504/524 | ROS/RNS Kit for Microscopy | ENZ51001200 | 342.60 |
| • Superoxide Detection Reagent | Orange | 530/590 | Total ROS/Superoxide Detection Kit | ENZ51010 | 270.30 |
| • NO Detection Reagent | Red | 648/666 | | | |

Introducing...

MICRONICS TRINEAN DropSense-96 MULTI-CHANNEL SPECTROPHOTOMETER

Minimized Samples, Maximized Throughput for DNA/RNA and Protein Quantification

Benefits

- Increased throughput
- No sample dilution
- 96 samples measured in less than 6 min.
- Compatible with automated liquid-handling systems
- No manual, one-at-a-time sample loading
- No sample evaporation
- No cleaning
- High reproducibility
- Easy-to-use, intuitive software

Features

- UV-VIS full-spectrum measurements (220-750nm)
- Large dynamic range (5-3,800ng/μL dsDNA) — no need for sample dilution
- 96-format droplet quantification (DropPlate 96)
- Unique patented optical spectrometer design combines cylindrical lenses with integrated optical elements, high-resolution gratings and ultra-sensitive photodiode array

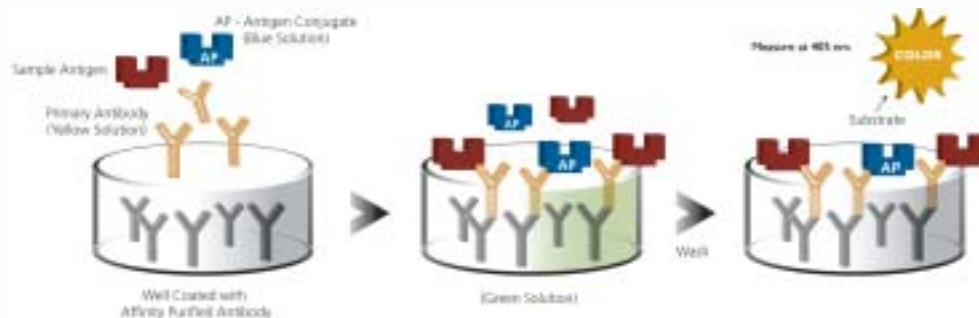


| Product Number | Description | Price |
|----------------|--|-------------|
| MSMT100000 | Trinean DropSense-96 Multi-channel Spectrophotometer | \$63,367.50 |

The DropSense 96 comes with the DropQuant software with special features for quick and easy DNA/RNA quantification or for determining labeling efficiency. Multiple samples in the DropPlates can be read in just minutes, while nucleic acid concentrations or other measurements are provided at the touch of a button. Reports can be printed immediately to Excel sheets or Adobe files. Sample data can be imported and exported.



Assay Designs and Stressgen Bioreagents are now a part of ENZO® Life Sciences. ENZO® Life Sciences offers quality, rapid, and easy-to-use kits for quick, reliable and sensitive results. Most of these kits arrive complete and ready for use with colour-coded, liquid reagents. The kits come in three formats: Colourimetric (EIA), Chemiluminescent (CLIA) and Fluorometric (FPIA). The typical format for one of the EIA's is shown below. Alkaline Phosphatase (AP) is used as the detection enzyme because of its stability, turnover number and lack of interferences.



ENZO® LIFE SCIENCES PEPTIDE AND HORMONE ELISA KITS

| Product Number | Description | Specificity | Range (pg/mL) | Sensitivity (pg/mL) | Time | Type | Pkg Size | Price |
|----------------|------------------------------|--------------|-----------------|---------------------|------------|------|--------------|----------|
| ENZ900008 | 17beta-Estradiol | non-specific | 29.3-30,000 | 28.5 | 3 Hours | EIA | 1 x 96 wells | \$324.70 |
| ENZ901008 | 17beta-Estradiol | non-specific | 29.3-30,000 | 28.5 | 3 Hours | EIA | 5 x 96 wells | 1,286.70 |
| ENZ900017 | Arg ⁸ Vasopressin | non-specific | 4.10-1,000 | 3.39 | Overnight | EIA | 1 x 96 wells | 403.70 |
| ENZ901017 | Arg ⁸ Vasopressin | non-specific | 4.10-1,000 | 3.39 | Overnight | EIA | 5 x 96 wells | 1,632.70 |
| ENZ900097 | Corticosterone | non-specific | 32-20,000 | 27.0 | 3 Hours | EIA | 1 x 96 wells | 324.70 |
| ENZ901097 | Corticosterone | non-specific | 32-20,000 | 27.0 | 3 Hours | EIA | 5 x 96 wells | 1,286.70 |
| ENZ900071 | Cortisol | non-specific | 156-10,000 | 56.72 | 3 Hours | EIA | 1 x 96 wells | 324.70 |
| ENZ901071 | Cortisol | non-specific | 156-10,000 | 56.72 | 3 Hours | EIA | 5 x 96 wells | 1,286.70 |
| ENZ920071 | Cortisol | non-specific | 781-800,000 | 685 | 30 minutes | FPIA | 100 Tests | 266.60 |
| ENZ907030 | Creatinine | non-specific | 0.31 - 20 mg/dL | 0.019 mg/dL | 30 minutes | EIA | 2 x 96 wells | 241.70 |
| ENZ900093 | DHEA | non-specific | 12.21-50,000 | 2.9 | 5 Hours | EIA | 1 x 96 wells | 324.70 |
| ENZ901093 | DHEA | non-specific | 12.21-50,000 | 2.9 | 5 Hours | EIA | 5 x 96 wells | 1,286.70 |
| ENZ900100 | Estriol | non-specific | 122-500,000 | 59.6 | 3 Hours | EIA | 1 x 96 wells | 324.70 |
| ENZ900026 | Gastrin (1-17) | human | 39.1-10,000 | 7.27 | 5 Hours | EIA | 1 x 96 wells | 403.70 |
| ENZ901026 | Gastrin (1-17) | human | 39.1-10,000 | 7.27 | 5 Hours | EIA | 5 x 96 wells | 1,632.70 |
| ENZ900149 | Gastrin (1-17) | rat | 78.1 - 5,000 | 78.1 | 5 Hours | EIA | 1 x 96 wells | 403.70 |
| ENZ900150 | IGF-I | human | 187 - 6,000 | 48.5 | 4 hours | EIA | 1 x 96 wells | 506.80 |
| ENZ900028A | Leptin | human | 195-12,500 | 25.5 | 2 Hours | EIA | 1 x 96 wells | 484.00 |
| ENZ900019A | Leptin | mouse | 12.5-800 | 1.74 | 2 Hours | EIA | 1 x 96 wells | 484.00 |
| ENZ900015A | Leptin | rat | 56-3,600 | 46.7 | 2 Hours | EIA | 1 x 96 wells | 484.00 |
| ENZ900115 | Myeloperoxidase | human | 390-12,500 | 0.13 | < 3 Hours | EIA | 1 x 96 wells | 438.60 |
| ENZ900142 | Osteopontin | human | 2,000-32,000 | 0.110 | 3 Hours | EIA | 1 x 96 wells | 512.90 |
| ENZ900090A | Osteopontin | mouse | 1,000-64,000 | 192.3 | 2 Hours | EIA | 1 x 96 wells | 512.90 |
| ENZ900153 | Oxytocin | non-specific | 15.6-1,000 | 11.7 | Overnight | EIA | 1 x 96 wells | 415.80 |
| ENZ901153 | Oxytocin | non-specific | 15.6-1,000 | 11.7 | Overnight | EIA | 5 x 96 wells | 1,655.50 |
| ENZ900011 | Progesterone | non-specific | 15.62-500 | 8.57 | 3 Hours | EIA | 1 x 96 wells | 324.70 |
| ENZ901011 | Progesterone | non-specific | 15.62-500 | 8.57 | 3 Hours | EIA | 5 x 96 wells | 1,286.70 |
| ENZ900018 | Substance P | non-specific | 9.76-10,000 | 8.04 | 3 Hours | EIA | 1 x 96 wells | 380.90 |
| ENZ901018 | Substance P | non-specific | 9.76-10,000 | 8.04 | 3 Hours | EIA | 5 x 96 wells | 1,587.20 |
| ENZ900065 | Testosterone | non-specific | 7.81-2,000 | 5.67 | 3 Hours | EIA | 1 x 96 wells | 324.70 |
| ENZ901065 | Testosterone | non-specific | 7.81-2,000 | 5.67 | 3 Hours | EIA | 5 x 96 wells | 1,286.70 |

Many more kits are available. Please inquire if you don't see what you are looking for.

CYTOKINE AND CHEMOKINE ELISAs

ENZO® LIFE SCIENCES CYTOKINE AND CHEMOKINE ELISA KITS

| Product Number | Description | Specificity | Range (pg/mL) | Sensitivity (pg/mL) | Time | Pkg Size | Price |
|----------------|----------------|---------------------------|----------------|---------------------|------------|--------------|----------|
| ENZ900141 | Cytochrome c | human | 28.13 - 900 | 6.03 | 3.25 hours | 1 x 96 wells | \$597.90 |
| ENZ900098 | ERK1/2 | phospho | 62.5 - 2,000 | 38.3 | 3 hours | 1 x 96 wells | 597.90 |
| ENZ900149 | Gastrin | rat | 78.1 - 5,000 | 78.1 | 5 hours | 1 x 96 wells | 403.70 |
| ENZ900074 | GRO/CINC-1 | rat | 4.7-300 | 1.99 | 2 hours | 1 x 96 wells | 563.00 |
| ENZ900136 | IFN- γ | human | 25.6-1,000 | <2 | < 5 hours | 1 x 96 wells | 517.40 |
| ENZ900137 | IFN- γ | mouse | 37 - 3,000 | <10 | 4 hours | 1 x 96 wells | 517.40 |
| ENZ900150 | IGF-I | human | 187 - 6,000 | 48.5 | 4 hours | 1 x 96 wells | 506.80 |
| ENZ900130 | IL-1 β | human | 10.24-400 | <1 | < 4 hours | 1 x 96 wells | 506.80 |
| ENZ900132 | IL-1 β | mouse | 15.6-1,000 | <3 | < 4 hours | 1 x 96 wells | 484.00 |
| ENZ900131 | IL-1 β | rat | 25.6-2,500 | <12 | < 4 hours | 1 x 96 wells | 563.00 |
| ENZ900118A | IL-2 | human | 7.81-500 | 2.0 | < 3 hours | 1 x 96 wells | 484.00 |
| ENZ900042 | IL-2 | mouse | 7.81-1,000 | 3.12 | < 4 hours | 1 x 96 wells | 499.20 |
| ENZ900145 | IL-4 | human | 10.24-400 | <2 | 3 hours | 1 x 96 wells | 506.80 |
| ENZ900043 | IL-4 | mouse | 7.81-1,000 | 4.34 | 3 hours | 1 x 96 wells | 449.20 |
| ENZ900033 | IL-6 | human | 7.81-500 | 6.01 | < 3 hours | 1 x 96 wells | 484.00 |
| ENZ900045 | IL-6 | mouse | 7.81-1,000 | 1.01 | < 3 hours | 1 x 96 wells | 461.30 |
| ENZ900156 | IL-8 | human | 7.8-1,000 | 0.64 | < 3 hours | 1 x 96 wells | 517.40 |
| ENZ900036 | IL-10 | human | 7.81-500 | 3.75 | < 3 hours | 1 x 96 wells | 484.00 |
| ENZ900148 | IL-10 | mouse | 37-3,000 | <12 | 5 hours | 1 x 96 wells | 484.00 |
| ENZ900106 | JNK(1/2) | phospho | 125 - 4,000 | 75.8 | 3 hours | 1 x 96 wells | 506.80 |
| ENZ900077 | MCP-1 | rat | 50-1,600 | 20.45 | 2 hours | 1 x 96 wells | 563.00 |
| ENZ900119 | MEK1 | phospho | 187.5 - 6,000 | 85.2 | 3 hours | 1 x 96 wells | 506.80 |
| ENZ900090A | Osteopontin | mouse | 1,000 - 64,000 | 192.3 | 2 hours | 1 x 96 wells | 512.90 |
| ENZ900005 | PGE1 | non-specific | 4.88 - 5,000 | 5.58 | 3 hours | 1 x 96 wells | 393.00 |
| ENZ900111 | Survivin | human total | 31.25 - 1,000 | 4 | 3 hours | 1 x 96 wells | 676.80 |
| ENZ900155 | TGF- β 1 | human, mouse, rat, bovine | 31.25 - 1,000 | 3.3 | 4 hours | 1 x 96 wells | 512.90 |
| ENZ900099 | TNF- α | human | 15.63-1,000 | 8.43 | 4 hours | 1 x 96 wells | 484.00 |
| ENZ900047 | TNF- α | mouse | 31.25-2,000 | 20.1 | 4 hours | 1 x 96 wells | 461.30 |
| ENZ900086A | TNF- α | rat | 31.3 - 2,000 | 12.0 - 26.7 | 3 hours | 1 x 96 wells | 563.00 |
| ENZ900080 | VEGF | human | 15.6-1,000 | 14.04 | overnight | 1 x 96 wells | 563.00 |

Antibodies and proteins for cytokine and chemokine research are also available, please contact tech@biolynx.ca for more information.

ENZO® LIFE SCIENCES HEAT SHOCK PROTEIN ELISA KITS

| Product Number | Description | Specificity | Range (pg/mL) | Sensitivity (pg/mL) | Time | Pkg Size | Price |
|----------------|----------------------------|-------------------|------------------|---------------------|------------|--------------|----------|
| ENZEKS500 | Hsp27 | human | 390-25,000 | 390 | < 3 hours | 1 x 96 wells | \$654.00 |
| ENZ900170 | Hsp27 | human | 31.25-1000 | 101.15 | 3 hours | 1 x 96 wells | 506.80 |
| ENZ900165 | Hsp27 (phospho-Ser15) | human | 31.25-1000 | 4.30 | 3 hours | 1 x 96 wells | 506.80 |
| | Hsp27 (phospho-Ser78) | | | | | | |
| ENZEKS600 | Hsp60 | human | 3,125-100,000 | 3,125 | < 3 hours | 1 x 96 wells | 654.00 |
| ENZEKS700B | Hsp70 | human, mouse, rat | 780 - 50,000 | 200 | <4.5 hours | 1 x 96 wells | 626.70 |
| ENZEKS725A | Hsp70B' | human | 156-10,000 | 60 | <4.5 hours | 1 x 96 wells | 767.80 |
| ENZEIKS715 | Hsp70 High Sensitivity | human, mouse, rat | 200-12,500 | 90 | <4.5 hours | 1 x 96 wells | 666.20 |
| ENZEKS895 | Hsp90 α | human | 0-4,000 | 50 | < 3 hours | 1 x 96 wells | 767.80 |
| ENZEKS650 | Anti-human Hsp60 (IgG/A/M) | human | 7,810-25,000 | 2,880 | 3.25 hours | 1 x 96 wells | 654.00 |
| ENZEKS750 | Anti-human Hsp70 (IgG/A/M) | human | 31,250-1,000,000 | 6,790 | 3.25 hours | 1 x 96 wells | 654.00 |

EICOSANOID AND OXYDATIVE STRESS ASSAYS

ENZO® LIFE SCIENCES EICOSANOID ASSAY KITS

| Product Number | Description | Specificity | Range (pg/mL)* | Sensitivity (pg/mL)* | Time | Type | Pkg Size | Price |
|----------------|---------------------------------------|--------------|-----------------|----------------------|------------|----------|--------------|----------|
| ENZ900004 | 6-keto-PGF1 α | non-specific | 3.2-50,000 | 1.40 | < 3 hours | EIA | 1 x 96 wells | \$364.10 |
| ENZ901004 | 6-keto-PGF1 α | non-specific | 3.2-50,000 | 1.40 | < 3 hours | EIA | 5 x 96 wells | 1,450.60 |
| ENZ900091 | 8-iso-PGF2 α (direct) | non-specific | 160-100,000 | 103.2 | 2 hours | EIA | 1 x 96 wells | 409.70 |
| ENZ901091 | 8-iso-PGF2 α (direct) | non-specific | 160-100,000 | 103.2 | 2 hours | EIA | 5 x 96 wells | 1,587.20 |
| ENZ900010 | 8-iso-PGF2 α (regular) | non-specific | 6.1-100,000 | 16.3 | < 3 hours | EIA | 1 x 96 wells | 393.00 |
| ENZ901010 | 8-iso-PGF2 α (regular) | non-specific | 6.1-100,000 | 16.3 | < 3 hours | EIA | 5 x 96 wells | 1,587.20 |
| ENZ900012 | 9 α ,11 β -PGF2 α | non-specific | 32-500,000 | 15.7 | 3 hours | EIA | 1 x 96 wells | 364.10 |
| ENZ901012 | 9 α ,11 β -PGF2 α | non-specific | 32-500,000 | 15.7 | 3 hours | EIA | 5 x 96 wells | 1,450.60 |
| ENZ900092 | 11-dehydro-TXB2 | non-specific | 9.8-10,000 | 4.31 | 3 hours | EIA | 1 x 96 wells | 380.90 |
| ENZ901092 | 11-dehydro-TXB2 | non-specific | 9.8-10,000 | 4.31 | 3 hours | EIA | 5 x 96 wells | 1,587.20 |
| ENZ900050 | 12(S)-HETE | non-specific | 195-50,000 | 146 | 5 hours | EIA | 1 x 96 wells | 409.70 |
| ENZ901050 | 12(S)-HETE | non-specific | 195-50,000 | 146 | 5 hours | EIA | 5 x 96 wells | 1,638.80 |
| ENZ900108 | 13(S)-HODE | non-specific | 3,900-1,000,000 | 1.6 | 4 hours | EIA | 1 x 96 wells | 409.70 |
| ENZ901108 | 13(S)-HODE | non-specific | 3,900-1,000,000 | 1.6 | 4 hours | EIA | 5 x 96 wells | 1,638.80 |
| ENZ900051 | 15(S)-HETE | non-specific | 78.1-20,000 | 69.21 | overnight | EIA | 1 x 96 wells | 409.70 |
| ENZ901051 | 15(S)-HETE | non-specific | 78.1-20,000 | 69.21 | overnight | EIA | 5 x 96 wells | 1,638.80 |
| ENZ900023 | 15-d-PGJ2 | non-specific | 195-200,000 | 36.8 | 5 hours | EIA | 1 x 96 wells | 409.70 |
| ENZ901023 | 15-d-PGJ2 | non-specific | 195-200,000 | 36.8 | 5 hours | EIA | 5 x 96 wells | 1,638.80 |
| ENZ900094 | COX-II (human) | human | 2,150-137,500 | 0.249 | 2 hours | EIA | 1 x 96 wells | 581.10 |
| ENZ907003 | COX Activity | independent | 7.5-60 units/mL | 0.147 units/mL | — | Activity | 1 x 96 wells | 364.10 |
| ENZ900070 | Cysteinyl Leukotriene | non-specific | 78.1-2,500 | 26.6 | 4 hours | EIA | 1 x 96 wells | 393.00 |
| ENZ901070 | Cysteinyl Leukotriene | non-specific | 78.1-2,500 | 26.6 | 4 hours | EIA | 5 x 96 wells | 1,587.20 |
| ENZ900141 | Cytochrome c | human | 28.13 - 900 | 6.03 | 3.25 hours | EIA | 1 x 96 wells | 597.90 |
| ENZ900068 | LTB4 | non-specific | 11.7-3,000 | 5.63 | 4 hours | EIA | 1 x 96 wells | 393.00 |
| ENZ901068 | LTB4 | non-specific | 11.7-3,000 | 5.63 | 4 hours | EIA | 5 x 96 wells | 1,587.20 |
| ENZ900005 | PGE1 | non-specific | 4.88-5,000 | 5.58 | < 3 hours | EIA | 1 x 96 wells | 393.00 |
| ENZ901005 | PGE1 | non-specific | 4.88-5,000 | 5.58 | < 3 hours | EIA | 5 x 96 wells | 1,587.20 |
| ENZ900001 | PGE2 | non-specific | 39.1-2,500 | 13.4 | < 3 hours | EIA | 1 x 96 wells | 353.50 |
| ENZ901001 | PGE2 | non-specific | 39.1-2,500 | 13.4 | < 3 hours | EIA | 5 x 96 wells | 1,411.20 |
| ENZ910001 | PGE2 | non-specific | 7.81-1,000 | 6.03 | 3 hours | CLIA | 1 x 96 wells | 393.00 |
| ENZ930001 | PGE2 (high sensitivity) | non-specific | 7.8-1,000 | 8.26 | overnight | EIA | 1 x 96 wells | 380.90 |
| ENZ931001 | PGE2 (high sensitivity) | non-specific | 7.8-1,000 | 8.26 | overnight | EIA | 5 x 96 wells | 1,587.20 |
| ENZ920001 | PGE2 | non-specific | 1,562-100,000 | 684 | 30 min. | FPIA | 1 x 96 wells | 266.60 |
| ENZ900069 | PGF2 α | non-specific | 3.05-50,000 | 6.71 | < 3 hours | EIA | 1 x 96 wells | 353.50 |
| ENZ901069 | PGF2 α | non-specific | 3.05-50,000 | 6.71 | < 3 hours | EIA | 5 x 96 wells | 1,411.20 |
| ENZ907002 | sPLA2 | independent | 5-80 units/mL | 3.85 units/mL | 40 min. | Activity | 1 x 96 wells | 380.90 |
| ENZ900002 | TXB2 | non-specific | 13.7-10,000 | 10.5 | < 3 hours | EIA | 1 x 96 wells | 353.50 |
| ENZ901002 | TXB2 | non-specific | 13.7-10,000 | 10.5 | < 3 hours | EIA | 5 x 96 wells | 1,411.20 |
| ENZ900025 | Urinary Prostacyclin | non-specific | 7.81-2,000 | 6.58 | < 3 hours | EIA | 1 x 96 wells | 393.00 |
| ENZ901025 | Urinary Prostacyclin | non-specific | 7.81-2,000 | 6.58 | < 3 hours | EIA | 5 x 96 wells | 1,587.20 |

* unless otherwise specified

ENZO® LIFE SCIENCES OXIDATIVE STRESS ASSAY KITS

| Product Number | Description | Specificity | Range | Sensitivity | Time | Type | Pkg Size | Price |
|----------------|--|-------------|---|---|---------|-------------------------|--------------|----------|
| ENZ907015 | Hydrogen Peroxide | independent | 106.25 - 3,400 ng/mL | 51.25 ng/mL | — | Colourimetric Detection | 1 x 96 wells | \$311.30 |
| ENZ900115 | Myeloperoxidase | human | 0.195 - 12.5 ng/mL | Assay Buffer 13: 0.028 ng/mL Assay Buffer 31: 0.019 ng/mL | 3 hours | EIA | 1 x 96 wells | 438.60 |
| ENZ917010 | Nitric Oxide (NO ₂ /NO ₃) | independent | (Nitrite) 3.125 - 200 μ mole/L; (Nitrate) 3.125 - 100 μ mole/L | (Nitrite) 0.222 μ mole/L; (Nitrate) 0.625 μ mole/L | — | Detection | 2 x 96 wells | 255.10 |
| ENZ917020 | Nitric Oxide (total) | independent | 3.125 - 100 μ mole/L | 0.625 μ mole/L | — | Detection | 2 x 96 wells | 255.10 |

PromoCell



PromoCell is Europe's leading manufacturer of human cell cultures.

They offer state-of-the-art cell culture know-how and service for science, research and industry. Their strict controls and unrivalled logistics ensure top quality.

The following pages contain a selection of their specialty media. Classical media, reagents and biochemicals are also available – please contact our Technical Support Department (tech@biolynx.ca or 1-888-593-5969) for assistance in finding the product(s) you are looking for.

PROMOCELL NORMAL HUMAN CELL CULTURE

Since it is sometimes very difficult for laboratory scientists to obtain human tissue for isolation, and isolating some types of cells can be a very difficult and lengthy procedure, and many safety precautions must be taken to avoid the transfer of diseases. PromoCell has committed itself to making various normal human cells available to scientists.

- Endothelial Cell Culture
- Preadipocyte & Adipocyte Culture
- Chondrocyte Culture
- Hepatocyte Culture
- Smooth Muscle Cell Culture
- Melanocyte Culture
- Osteoblast Culture
- Fibroblast Culture
- Epithelial Cell Culture
- Keratinocyte Cell Culture
- Skeletal Muscle Cell Culture
- Follicle Dermal Papilla Cell Culture
- Cardiac Myocyte Culture

Should you require another cell type, please contact our technical support department at tech@biolynx.ca and we would be very pleased to receive your request. Not only can a specific isolation be carried out at your request, but PromoCell would also then be able to further extend their range to include the types of cell that you, our customers request.

Below are some of their most popular Human Cell Cultures.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| PROC12210 | HDMEC-c - Normal Human Dermal Microvascular Endothelial Cells > 500,000 cryopreserved cells / 1 mL Cryo-SFM | 1 vial | \$557.00 |
| PROC12260 | HDMEC-p - Normal Human Dermal Microvascular Endothelial Cells > 500,000 proliferating cells / T-25 flask | 1 flask | 557.00 |
| PROC12001 | NHEK.f-c - Normal Human Keratinocytes foreskin > 500,000 cryopreserved cells / 1 mL Cryo-SFM | 1 vial | 417.00 |
| PROC12002 | NHEK.f-p - Normal Human Keratinocytes foreskin > 500,000 proliferating cells / T-25 flask | 1 flask | 417.00 |
| PROC12300 | NHDF-c - Normal Human Dermal Fibroblasts > 500,000 cryopreserved cells / 1 mL Cryo-SFM | 1 vial | 427.00 |
| PROC12350 | NHDF-p - Normal Human Dermal Fibroblasts > 500,000 proliferating cells / T-25 flask | 1 flask | 425.00 |

PROMOCELL HUMAN STEM AND BLOOD CELLS

PromoCell offers a collection of adult stem cells as well as differentiated blood cells from normal human bone marrow, umbilical cord tissue, adipose tissue, and peripheral blood. All cells are obtained from approved donor programs at associated medical centers. High quality media that simulate the in vivo environment as well as optimized differentiation media systems are also available for these cell types.

PromoCell Mesenchymal Stem Cells — Normal Human Cells

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| PROC12977 | hMSC-AT-c - Human Mesenchymal Stem Cells from Adipose Tissue > 500.000 cryopreserved cells / 1 mL Cryo-SFM | 1 vial | \$570.00 |
| PROC12978 | hMSC-AT-p - Human Mesenchymal Stem Cells from Adipose Tissue > 500.000 proliferating cells / T-25 flask | 1 flask | 570.00 |
| PROC12971 | hMSC-UC-c - Human Mesenchymal Stem Cells from Umbilical Cord Matrix > 500.000 cryopreserved cells / 1 mL Cryo-SFM | 1 vial | 570.00 |
| PROC12972 | hMSU-UC-p - Human Mesenchymal Stem Cells from Umbilical Cord Matrix > 500.000 proliferating cells / T-25 flask | 1 flask | 570.00 |
| PROC12974 | hMSC-BM-c - Human Mesenchymal Stem Cells from Bone Marrow > 500.000 cryopreserved cells / 1 mL Cryo-SFM | 1 vial | 640.00 |
| PROC12975 | hMSC-BM-c - Human Mesenchymal Stem Cells from Bone Marrow > 500.000 proliferating cells / T-25 flask | 1 flask | 640.00 |

PromoCell CD34⁺ Progenitor Cells — Normal Human Cells

CD34⁺ is a cell surface glycoprotein, which functions as a cell-cell adhesion factor. It mediates the attachment of stem cells to stromal cells or to the bone marrow extracellular matrix. In addition, CD34⁺ is a known marker for hematopoietic and endothelial progenitor cells. Subpopulations of cells expressing CD34⁺ (CD34⁺ cells) are capable of differentiating into all types of blood cells and endothelial lineages both in vitro and in vivo. PromoCell offers optimized media, which support this differentiation. As the cells mature and differentiate, CD34⁺ expression is lost.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| PROC12921 | hCD34+-CB-c - Human CD34 ⁺ Progenitor Cells from Cord Blood > 100.000 cryopreserved cells | 1 vial | \$376.00 |
| PROC12924 | hCD34+-CB-c pooled - Human CD34 ⁺ Progenitor Cells from Cord Blood pooled > 100.000 cryopreserved cells | 1 vial | 286.00 |

PromoCell Mononuclear Cells — Normal Human Cells

PromoCell Mononuclear Cells (MNC) represent the lymphocyte and monocyte fraction isolated from umbilical cord blood or peripheral blood of healthy adult donors. They are prepared by optimized low-density gradient centrifugation, which effectively reduces the granulocyte content. Instead of osmotic lysis, red blood cells are gently but thoroughly depleted by aggregation followed by gravity sedimentation. This results in ultra-pure mononuclear cells with superior viability and unchanged biological function. In addition, the cells do not clump after thawing and allow for easy handling and reproducible results. The MNC can be used directly for experiments, or as a starting material for the isolation of several cell types, e.g. hematopoietic and endothelial progenitors, monocytes, and lymphocyte subpopulations.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| PROC12907 | hMNC-PB-c - Human Mononuclear Cells from Peripheral Blood single donor ultra-pure, > 25 x 10 ⁶ cryopreserved cells | 1 vial | \$395.00 |
| PROC12901 | hMNC-CB-c - Human Mononuclear Cells from Cord Blood single donor ultra-pure, > 25 x 10 ⁶ cryopreserved cells | 1 vial | 395.00 |
| PROC12904 | hMNC-CB-c pooled - Human Mononuclear Cells from Cord Blood pooled ultra-pure, > 25 x 10 ⁶ cryopreserved cells | 1 vial | 357.00 |

CD133⁺ Progenitor Cells and CD14⁺ Monocytes and Pericytes are also available — please inquire.

PROMOCELL READY-TO-USE MEDIA

The PromoCell media for stem and blood cells are formulated for either the optimal growth of specific cell types or to support the differentiation into the respective mature cells. Each medium lot is tested for its ability to support growth or differentiation, respectively. In addition, biochemical and sterility tests are performed. The media for stem and blood cells contain no antibiotics. The Media (Ready-to-use) consist of a 100 mL or a 500 mL bottle with Basal Medium and a vial with Supplement Mix.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| PROC28010 | Mesenchymal Stem Cell Growth Medium — Ready-to-use | 500 mL | \$158.00 |
| PROC28011 | Mesenchymal Stem Cell Adipogenic Differentiation Medium — Ready-to-use | 100 mL | 132.00 |
| PROC28012 | Mesenchymal Stem Cell Chondrogenic Differentiation Medium — Ready-to-use | 100 mL | 279.00 |
| PROC28013 | Mesenchymal Stem Cell Osteogenic Differentiation Medium — Ready-to-use | 100 mL | 132.00 |
| PROC28025 | Endothelial Progenitor Medium — Ready-to-use | 100 mL | 269.00 |
| PROC28020 | Hematopoietic Progenitor Medium — Ready-to-use | 100 mL | 68.00 |
| PROC28030 | Mononuclear Cell Medium — Ready-to-Use | 500 mL | 151.00 |

PROMOCELL DETACH KITS

PromoCell's Detach Kit contains all solutions which are necessary for optimal subcultivation of normal human cells. This facilitates fast and easy cultivation of Normal Human Cells.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| PROC41200 | Detach Kit-30 Includes: HepesBSS (PROC40000), 30mL Trypsin/EDTA (PROC41000), 30mL Trypsin Neutralizing Solution (TNS) (PROC41100), 30mL | Kit | \$34.00 |

PROMOCELL MEDIA FOR INSECT CELLS, BHK, CHO, HYBRIDOMA AND LYMPHOCYTES

The rapid and exciting expansion of cell biology to produce novel proteins requires a new generation of cell culture media: serum-free and protein-free media.

Serum normally has to be added to cell culture media. It has multiple positive functions; e.g. it may serve as a source of nutrients. However, serum has quite a lot of disadvantages: lot-to-lot-variability and serum increases the complexity of the downstream processing of the desired biological material.

PromoCell's "Express" line of media are tailor made to satisfy the needs of researchers working at this cutting edge of science. Media for the cultivation of CHO, BHK, hybridoma and insect cells all have "Express" status, being fully defined with serum-free and protein-free versions.

PromoCell Media for Insect Cells for Serum Requiring Culture

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| PROC77010 | Grace's Insect TC Medium, w/o L-Glutamine Grace's Medium has always been a popular medium for insect cell culture. The medium was formulated to resemble the chemical composition of the hemolymph from <i>Bombyx mori</i> . | 500 mL | \$24.00 |
| PROC77110 | Mitsuhashi/Maramorosh Insect Medium Mitsuhashi and Maramorosh Basal Medium is suited for mosquito cell culture. The complete medium has to be supplemented with FCS prior to use. | 500 mL | 19.00 |
| PROC77210 | Schneider's <i>Drosophila</i> Medium, w/o L-Glutamine This Medium was originally developed for the culture of <i>drosophila</i> cells. It can also be used for the culture of other dipteran cell lines. | 500 mL | 26.00 |

PromoCell BHK Cell Culture Medium

SFC-10 and SFC-20 BHK Express are fully defined media that can be used for the cultivation of BHK cells. They are especially suited to cultivate cells producing recombinant proteins. SFC-10 is a serum-free formulation containing 30 mg / L protein.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| PROC78720 | SFC-20 BHK Express, protein-free, w/o L-Glutamine | 500 mL | \$42.00 |
| PROC78710 | SFC-10 BHK Express, serum-free, w/o L-Glutamine | 500 mL | 42.00 |

PROMOCELL MEDIA FOR INSECT CELLS, BHK, CHO, HYBRIDOMA AND LYMPHOCYTES (Cont'd)**PromoCell TB-1 Clonal Express Lymphocyte Medium**

TB-1 Clonal Express Lymphocyte Medium is a completely defined, serum-free medium supplemented with albumin, transferrin, lecithin, ethanolamine and some fatty acids. Furthermore, it contains selenium, pyruvate, potassium nitrate, additional amino acids, vitamins and supplements.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| PROC78610 | TB-1 Clonal Express Lymphocyte Medium serum-free, w/o L-Glutamine | 500 mL | \$57.00 |

PromoCell CHO Cell Culture Media

CHO Express Media have been developed for the serum-free formulations SFC-30 and SFC-50 cultivation of Chinese Hamster Ovary (CHO) cells and can be used especially to cultivate cells producing recombinant proteins. Protein-free formulations SFC-60 and SFC-70.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| PROC78560 | SFC-60 CHO Express, protein-free CHO medium, w/o L-Glutamine | 500 mL | \$41.00 |
| PROC78570 | SFC-70 CHO Express, protein-free CHO medium, w/o L-Glutamine | 500 mL | 41.00 |
| PROC78530 | SFC-30 CHO Express, serum-free CHO medium, w/o L-Glutamine | 500 mL | 41.00 |
| PROC78550 | SFC-50 CHO Express, serum-free CHO medium, w/o L-Glutamine | 500 mL | 41.00 |

PromoCell Hybridoma Cell Culture Media

Hybridoma Growth Medium 7 (protein free) and Hybridoma Growth Medium 6 (Serum-free) are fully defined media that can be used for the cultivation of various different hybridomas. The media are available with or without phenolred to prevent interference of the dye with chromogenic assays.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| PROC78440 | Hybridoma Growth Medium 7 Express, protein-free, with L-Glutamine | 500 mL | \$55.00 |
| PROC78447 | Hybridoma Growth Medium 7 Express, w/o phenol red, protein-free, with L-Glutamine | 500 mL | 55.00 |
| PROC78410 | Hybridoma Growth Medium 6 Express, serum-free, with L-Glutamine | 500 mL | 42.00 |
| PROC78417 | Hybridoma Growth Medium 6 Express, w/o phenol red, serum-free, with L-Glutamine | 500 mL | 42.00 |

PromoCell Reagents and Biochemicals

PromoCell offers a broad range of media reagents and biochemicals typically utilized in cell culture work:

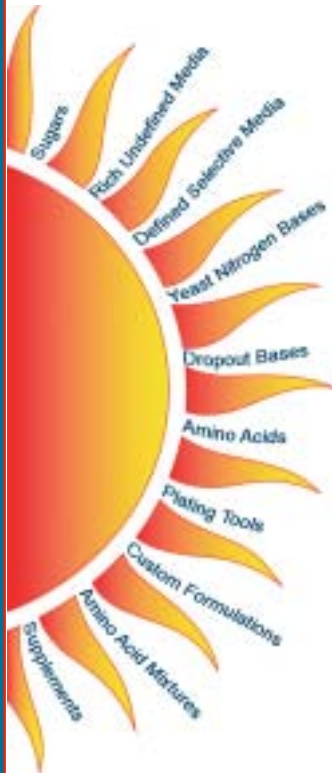
- Growth supplements for growth promotion of low serum and serum-free cell culture media
- Salt solutions and buffers routinely used in daily cell culture work like wash steps and tissue transport
- Antibiotics and Antimycotics in different concentrations and combinations for usage in cell culture
- Vitamins, amino acids and buffer supplements for the enrichment of media beyond their normal concentrations
- Trypsin solutions for tissue and cell dissociation are available in different concentrations as well as trypsin neutralizing solutions

Please contact our Technical Support Department at 1-888-593-5969 or tech@biolynx.ca for assistance in finding the product(s) you are looking for.

Yeast Media Products



SUNRISE SCIENCE PRODUCTS



Selective Media

The easiest way to order defined media is to purchase complete pre-mixed formulations. Synthetic Defined Media Broth (SD) and Agar (SDA) contain Yeast Nitrogen Base (YNB), Nitrogen, Dextrose, and your choice of an amino acid dropout mix based on the Complete Supplement Mixture (CSM) formulation.

Sunrise offers even more flexibility, purchase a Dropout Base (DOB) and change the amino acid combination. If more variation is necessary, materials are available to meet your every need.

Complete Selective Media

- SD/SDA
- EMM
- MMA

Dropout Bases*

- YNB
- YNB+N₂
- DOB

Amino Acid Dropout Mixtures*

- Complete Supplement Mixture (CSM)
- Hollenburg Supplement Mixture (HSM)
- Synthetic Complete Mixture (SC)
- Brent Supplement Mixture (BSM)

Undefined Growth Media

- YPD
- YPAD
- YES
- AHC
- Sporulation
- ME
- MV
- YEP
- YKAC

Components and Supplements

- Glucose
- Galactose
- Raffinose
- 3-AT
- 5-FOA
- Adenine
- Agar
- Amino Acids
- Inositol
- Uracil

Plating Tools

- Replica plating apparatus and velvet pads
- EZ-Plate™ Beads for even colony distribution
- Re-usable EZ-Grid™ colony templates

* Please visit www.sunrisescience.com for a complete listing of variations





Acronyms used by Sunrise Science Products

“YNB+Nitrogen”: At Sunrise Science Products, they define “YNB” as the salts, vitamins and trace elements that form a base to which nitrogen can be added. Unless their product name says “+Nitrogen”, there is no nitrogen in the product.

“Sugar”: Typically, this is glucose/dextrose. They also carry dropout bases (DOB) that use galactose, raffinose, or both instead of glucose.

“Amino Acids”: The most common two mixtures they carry are the CSM and SC amino acid mixtures. They also carry HSM and BSM mixtures, and can make custom versions also. Each type of mixture contains amino acids in varying concentrations, and not all may be present in each mixture.

“Complete Synthetic Defined Media”: At Sunrise Science Products, their complete synthetic defined media is named “SD” (or “SDA” if it contains agar). The SD/SDA formulations use their standard YNB, nitrogen, glucose, and the CSM version of amino acid mixture.

“Dropout Base”: At Sunrise Science Products, dropout bases are named “DOB” (or “DOBA” if it contains agar). The DOB/DOBA formulations use their standard YNB, nitrogen and glucose. They also have DOB/DOBA formulations with Raffinose, Galactose, or both.

AA Dropout Formulation Table

CSM = Complete Supplement Mixture
SC = Synthetic Complete/Hopkins Mixture

HSM = Hollenberg Supplement Mixture
BSM = Brent Supplement Mixture

| Component in mg/L | CSM | HSM | BSM | SC |
|-------------------------------|-----|-----|-----|-------|
| Adenine | 10 | 100 | 40 | 21 |
| L-Alanine | 0 | 0 | 0 | 85.6 |
| L-Arginine | 50 | 100 | 20 | 85.6 |
| L-Asparagine | 0 | 0 | 0 | 85.6 |
| L-Aspartic Acid | 80 | 50 | 100 | 85.6 |
| L-Cysteine | 0 | 100 | 0 | 85.6 |
| Glutamine | 0 | 0 | 0 | 85.6 |
| L-Glutamic Acid | 0 | 0 | 100 | 85.6 |
| Glycine | 0 | 0 | 0 | 85.6 |
| L-Histidine | 20 | 50 | 20 | 85.6 |
| Myo-Inositol | 0 | 0 | 0 | 85.6 |
| L-Isoleucine | 50 | 50 | 300 | 85.6 |
| L-Leucine | 100 | 100 | 60 | 173.4 |
| L-Lysine | 50 | 100 | 30 | 85.6 |
| L-Methionine | 20 | 50 | 20 | 85.6 |
| Para-AminoBenzoic Acid (PABA) | 0 | 0 | 0 | 8.6 |
| L-Phenylalanine | 50 | 50 | 50 | 85.6 |
| L-Proline | 0 | 50 | 0 | 85.6 |
| L-Serine | 0 | 50 | 375 | 85.6 |
| L-Threonine | 100 | 100 | 200 | 85.6 |
| L-Tryptophan | 50 | 100 | 40 | 85.6 |
| L-Tyrosine | 50 | 50 | 30 | 85.6 |
| Uracil | 20 | 100 | 20 | 85.6 |
| L-Valine | 140 | 50 | 150 | 85.6 |



SUNRISE SCIENCE PRODUCTS

SUNRISE COMPLETE SUPPLEMENT MIXTURE (CSM)

| Product Number | Description | Pkg Size | Price |
|----------------|------------------------------------|----------|----------|
| SN1210010 | CSM + 1mg/mL FOA Powder | 10 g | \$966.00 |
| SN1001010 | CSM Powder | 10 g | 54.70 |
| SN1001100 | CSM Powder | 100 g | 332.10 |
| SN1029010 | CSM-Ade Powder | 10 g | 54.70 |
| SN1029100 | CSM-Ade Powder | 100 g | 332.10 |
| SN1142010 | CSM-Ade-Arg-His-Ura Powder | 10 g | 54.70 |
| SN1142100 | CSM-Ade-Arg-His-Ura Powder | 100 g | 332.10 |
| SN1140010 | CSM-Ade-His Powder | 10 g | 54.70 |
| SN1140100 | CSM-Ade-His Powder | 100 g | 332.10 |
| SN1024010 | CSM-Ade-His-Leu Powder | 10 g | 54.70 |
| SN1024100 | CSM-Ade-His-Leu Powder | 100 g | 332.10 |
| SN1134010 | CSM-Ade-His-Leu-Lys Powder | 10 g | 54.10 |
| SN1134100 | CSM-Ade-His-Leu-Lys Powder | 100 g | 332.10 |
| SN1136010 | CSM-Ade-His-Leu-Lys-Trp Powder | 10 g | 54.70 |
| SN1136100 | CSM-Ade-His-Leu-Lys-Trp Powder | 100 g | 332.10 |
| SN1135010 | CSM-Ade-His-Leu-Lys-Trp-Ura Powder | 10 g | 54.70 |
| SN1135100 | CSM-Ade-His-Leu-Lys-Trp-Ura Powder | 100 g | 332.10 |
| SN1026010 | CSM-Ade-His-Leu-Met-Trp-Ura Powder | 10 g | 80.50 |
| SN1026100 | CSM-Ade-His-Leu-Met-Trp-Ura Powder | 100 g | 621.10 |
| SN1027010 | CSM-Ade-His-Leu-Trp Powder | 10 g | 54.70 |
| SN1027100 | CSM-Ade-His-Leu-Trp Powder | 100 g | 332.10 |
| SN1085010 | CSM-Ade-His-Leu-Trp-Ura Powder | 10 g | 54.70 |
| SN1085100 | CSM-Ade-His-Leu-Trp-Ura Powder | 100 g | 332.10 |
| SN1087010 | CSM-Ade-His-Leu-Ura Powder | 10 g | 54.70 |
| SN1087100 | CSM-Ade-His-Leu-Ura Powder | 100 g | 332.10 |
| SN1139010 | CSM-Ade-His-Met Powder | 10 g | 80.50 |
| SN1139100 | CSM-Ade-His-Met Powder | 100 g | 621.10 |
| SN1141010 | CSM-Ade-His-Trp Powder | 10 g | 54.70 |
| SN1141100 | CSM-Ade-His-Trp Powder | 100 g | 332.10 |
| SN1037010 | CSM-Ade-Leu Powder | 10 g | 54.70 |
| SN1037100 | CSM-Ade-Leu Powder | 100 g | 332.10 |
| SN1138010 | CSM-Ade-Leu-Met Powder | 10 g | 80.50 |
| SN1138100 | CSM-Ade-Leu-Met Powder | 100 g | 621.10 |
| SN1025010 | CSM-Ade-Leu-Trp Powder | 10 g | 54.70 |
| SN1025100 | CSM-Ade-Leu-Trp Powder | 100 g | 332.10 |
| SN1084010 | CSM-Ade-Leu-Trp-Ura Powder | 10 g | 54.70 |
| SN1084100 | CSM-Ade-Leu-Trp-Ura Powder | 100 g | 332.10 |
| SN1133010 | CSM-Ade-Leu-Ura Powder | 10 g | 54.70 |
| SN1133100 | CSM-Ade-Leu-Ura Powder | 100 g | 332.10 |
| SN1096010 | CSM-Ade-Met-Trp-Ura Powder | 10 g | 80.50 |
| SN1096100 | CSM-Ade-Met-Trp-Ura Powder | 100 g | 621.10 |
| SN1197010 | CSM-Ade-Met-Ura Powder | 10 g | 80.50 |
| SN1197100 | CSM-Ade-Met-Ura Powder | 100 g | 621.10 |
| SN1028010 | CSM-Ade-Trp Powder | 10 g | 54.70 |
| SN1028100 | CSM-Ade-Trp Powder | 100 g | 332.10 |
| SN1089010 | CSM-Ade-Trp-Ura Powder | 10 g | 54.70 |
| SN1089100 | CSM-Ade-Trp-Ura Powder | 100 g | 332.10 |
| SN1036010 | CSM-Ade-Ura Powder | 10 g | 54.70 |
| SN1036100 | CSM-Ade-Ura Powder | 100 g | 332.10 |
| SN1031010 | CSM-Arg Powder | 10 g | 54.70 |
| SN1031100 | CSM-Arg Powder | 100 g | 332.10 |
| SN1034010 | CSM-Arg-His Powder | 10 g | 54.70 |
| SN1034100 | CSM-Arg-His Powder | 100 g | 332.10 |
| SN1040010 | CSM-Arg-His-Lys Powder | 10 g | 54.70 |
| SN1040100 | CSM-Arg-His-Lys Powder | 100 g | 332.10 |
| SN1154010 | CSM-Arg-His-Lys-Ura Powder | 10 g | 54.70 |
| SN1154100 | CSM-Arg-His-Lys-Ura Powder | 100 g | 332.10 |
| SN1039010 | CSM-Arg-His-Ura Powder | 10 g | 54.70 |
| SN1039100 | CSM-Arg-His-Ura Powder | 100 g | 332.10 |
| SN1042010 | CSM-Arg-Leu Powder | 10 g | 54.70 |
| SN1042100 | CSM-Arg-Leu Powder | 100 g | 332.10 |
| SN1143010 | CSM-Arg-Leu-Lys-Ura Powder | 10 g | 54.70 |
| SN1143100 | CSM-Arg-Leu-Lys-Ura Powder | 100 g | 332.10 |
| SN1041010 | CSM-Arg-Leu-Ura Powder | 10 g | 54.70 |
| SN1041100 | CSM-Arg-Leu-Ura Powder | 100 g | 332.10 |

| Product Number | Description | Pkg Size | Price |
|----------------|------------------------------------|----------|----------|
| SN1098010 | CSM-Arg-Met Powder | 10 g | \$ 80.50 |
| SN1098100 | CSM-Arg-Met Powder | 100 g | 621.10 |
| SN1079010 | CSM-Arg-Trp Powder | 10 g | 54.70 |
| SN1079100 | CSM-Arg-Trp Powder | 100 g | 332.10 |
| SN1080010 | CSM-Arg-Trp-Ura Powder | 10 g | 54.70 |
| SN1080100 | CSM-Arg-Trp-Ura Powder | 100 g | 332.10 |
| SN1022010 | CSM-Arg-Ura Powder | 10 g | 54.70 |
| SN1022100 | CSM-Arg-Ura Powder | 100 g | 332.10 |
| SN1046010 | CSM-Asp Powder | 10 g | 54.70 |
| SN1046100 | CSM-Asp Powder | 100 g | 332.10 |
| SN1006010 | CSM-His Powder | 10 g | 54.70 |
| SN1006100 | CSM-His Powder | 100 g | 332.10 |
| SN1123010 | CSM-His+Ade20 Powder | 10 g | 54.70 |
| SN1123100 | CSM-His+Ade20 Powder | 100 g | 332.10 |
| SN1023010 | CSM-His+Ade40 Powder | 10 g | 54.70 |
| SN1023100 | CSM-His+Ade40 Powder | 100 g | 332.10 |
| SN1011010 | CSM-His-Leu Powder | 10 g | 54.70 |
| SN1011100 | CSM-His-Leu Powder | 100 g | 332.10 |
| SN1110010 | CSM-His-Leu+Ade40 Powder | 10 g | 54.70 |
| SN1110100 | CSM-His-Leu+Ade40 Powder | 100 g | 332.10 |
| SN1044010 | CSM-His-Leu-Lys Powder | 10 g | 54.70 |
| SN1044100 | CSM-His-Leu-Lys Powder | 100 g | 332.10 |
| SN1150010 | CSM-His-Leu-Lys-Met-Trp-Ura Powder | 10 g | 80.50 |
| SN1150100 | CSM-His-Leu-Lys-Met-Trp-Ura Powder | 100 g | 621.10 |
| SN1091010 | CSM-His-Leu-Lys-Trp Powder | 10 g | 54.70 |
| SN1091100 | CSM-His-Leu-Lys-Trp Powder | 100 g | 332.10 |
| SN1086010 | CSM-His-Leu-Lys-Trp-Ura Powder | 10 g | 54.70 |
| SN1086100 | CSM-His-Leu-Lys-Trp-Ura Powder | 100 g | 332.10 |
| SN1144010 | CSM-His-Leu-Met Powder | 10 g | 80.50 |
| SN1144100 | CSM-His-Leu-Met Powder | 100 g | 621.10 |
| SN1094010 | CSM-His-Leu-Met-Trp Powder | 10 g | 80.50 |
| SN1094100 | CSM-His-Leu-Met-Trp Powder | 100 g | 621.10 |
| SN1095010 | CSM-His-Leu-Met-Trp-Ura Powder | 10 g | 80.50 |
| SN1095100 | CSM-His-Leu-Met-Trp-Ura Powder | 100 g | 621.10 |
| SN1145010 | CSM-His-Leu-Met-Ura Powder | 10 g | 80.50 |
| SN1145100 | CSM-His-Leu-Met-Ura Powder | 100 g | 621.10 |
| SN1014010 | CSM-His-Leu-Trp Powder | 10 g | 54.70 |
| SN1014100 | CSM-His-Leu-Trp Powder | 100 g | 332.10 |
| SN1030010 | CSM-His-Leu-Trp+Ade40 Powder | 10 g | 54.70 |
| SN1030100 | CSM-His-Leu-Trp+Ade40 Powder | 100 g | 332.10 |
| SN1002010 | CSM-His-Leu-Trp-Ura Powder | 10 g | 54.70 |
| SN1002100 | CSM-His-Leu-Trp-Ura Powder | 100 g | 332.10 |
| SN1002500 | CSM-His-Leu-Trp-Ura Powder | 500 g | 1,439.60 |
| SN1015010 | CSM-His-Leu-Ura Powder | 10 g | 54.70 |
| SN1015100 | CSM-His-Leu-Ura Powder | 100 g | 332.10 |
| SN1090010 | CSM-His-Lys Powder | 10 g | 54.70 |
| SN1090100 | CSM-His-Lys Powder | 100 g | 332.10 |
| SN1156010 | CSM-His-Lys-Trp Powder | 10 g | 54.70 |
| SN1156100 | CSM-His-Lys-Trp Powder | 100 g | 332.10 |
| SN1088010 | CSM-His-Lys-Trp-Ura Powder | 10 g | 54.70 |
| SN1088100 | CSM-His-Lys-Trp-Ura Powder | 100 g | 332.10 |
| SN1155010 | CSM-His-Lys-Ura Powder | 10 g | 54.70 |
| SN1155100 | CSM-His-Lys-Ura Powder | 100 g | 332.10 |
| SN1099010 | CSM-His-Met Powder | 10 g | 80.50 |
| SN1099100 | CSM-His-Met Powder | 100 g | 621.10 |
| SN1147010 | CSM-His-Met-Trp-Ura Powder | 10 g | 80.50 |
| SN1147100 | CSM-His-Met-Trp-Ura Powder | 100 g | 621.10 |
| SN1100010 | CSM-His-Met-Ura Powder | 10 g | 80.50 |
| SN1100100 | CSM-His-Met-Ura Powder | 100 g | 621.10 |
| SN1013010 | CSM-His-Trp Powder | 10 g | 54.70 |
| SN1013100 | CSM-His-Trp Powder | 100 g | 332.10 |
| SN1111010 | CSM-His-Trp+Ade40 Powder | 10 g | 54.70 |
| SN1111100 | CSM-His-Trp+Ade40 Powder | 100 g | 332.10 |
| SN1016010 | CSM-His-Trp-Ura Powder | 10 g | 54.70 |
| SN1016100 | CSM-His-Trp-Ura Powder | 100 g | 332.10 |



SUNRISE SCIENCE PRODUCTS

SUNRISE COMPLETE SUPPLEMENT MIXTURE (CSM) (Cont'd)

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------------|----------|---------|
| SN1053010 | CSM-His-Tyr Powder | 10 g | \$54.70 |
| SN1009010 | CSM-His-Ura Powder | 10 g | 54.70 |
| SN1009100 | CSM-His-Ura Powder | 100 g | 332.10 |
| SN1112010 | CSM-His-Ura+Ade40 Powder | 10 g | 54.70 |
| SN1112100 | CSM-His-Ura+Ade40 Powder | 100 g | 332.10 |
| SN1048010 | CSM-Ile Powder | 10 g | 54.70 |
| SN1048100 | CSM-Ile Powder | 100 g | 332.10 |
| SN1005010 | CSM-Leu Powder | 10 g | 54.70 |
| SN1005100 | CSM-Leu Powder | 100 g | 332.10 |
| SN1101010 | CSM-Leu+Ade40 Powder | 10 g | 54.70 |
| SN1101100 | CSM-Leu+Ade40 Powder | 100 g | 332.10 |
| SN1033010 | CSM-Leu+Ade5 Powder | 10 g | 54.70 |
| SN1033100 | CSM-Leu+Ade5 Powder | 100 g | 332.10 |
| SN1043010 | CSM-Leu-Lys Powder | 10 g | 54.70 |
| SN1043100 | CSM-Leu-Lys Powder | 100 g | 332.10 |
| SN1093010 | CSM-Leu-Met Powder | 10 g | 80.50 |
| SN1093100 | CSM-Leu-Met Powder | 100 g | 621.10 |
| SN1021010 | CSM-Leu-Met-Trp Powder | 10 g | 80.50 |
| SN1021100 | CSM-Leu-Met-Trp Powder | 100 g | 621.10 |
| SN1097010 | CSM-Leu-Met-Trp-Ura Powder | 10 g | 80.50 |
| SN1097100 | CSM-Leu-Met-Trp-Ura Powder | 100 g | 621.10 |
| SN1146010 | CSM-Leu-Met-Ura Powder | 10 g | 80.50 |
| SN1146100 | CSM-Leu-Met-Ura Powder | 100 g | 621.10 |
| SN1170010 | CSM-Leu-Thr-Trp Powder | 10 g | 54.70 |
| SN1170100 | CSM-Leu-Thr-Trp Powder | 100 g | 332.10 |
| SN1169010 | CSM-Leu-Thr-Trp-Ura Powder | 10 g | 54.70 |
| SN1169100 | CSM-Leu-Thr-Trp-Ura Powder | 100 g | 332.10 |
| SN1012010 | CSM-Leu-Trp Powder | 10 g | 54.70 |
| SN1012100 | CSM-Leu-Trp Powder | 100 g | 332.10 |
| SN1115010 | CSM-Leu-Trp+Ade40 Powder | 10 g | 54.70 |
| SN1115100 | CSM-Leu-Trp+Ade40 Powder | 100 g | 332.10 |
| SN1017010 | CSM-Leu-Trp-Ura Powder | 10 g | 54.70 |
| SN1017100 | CSM-Leu-Trp-Ura Powder | 100 g | 332.10 |
| SN1038010 | CSM-Leu-Ura Powder | 10 g | 54.70 |
| SN1038100 | CSM-Leu-Ura Powder | 100 g | 332.10 |
| SN1113010 | CSM-Leu-Ura+Ade40 Powder | 10 g | 54.70 |
| SN1113100 | CSM-Leu-Ura+Ade40 Powder | 100 g | 332.10 |
| SN1032010 | CSM-Lys Powder | 10 g | 54.70 |
| SN1032100 | CSM-Lys Powder | 100 g | 332.10 |
| SN1035010 | CSM-Lys-Met Powder | 10 g | 80.50 |

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------|----------|----------|
| SN1035100 | CSM-Lys-Met Powder | 100 g | \$621.10 |
| SN1054010 | CSM-Lys-Trp Powder | 10 g | 54.70 |
| SN1054100 | CSM-Lys-Trp Powder | 100 g | 332.10 |
| SN1157010 | CSM-Lys-Trp-Ura Powder | 10 g | 54.70 |
| SN1157100 | CSM-Lys-Trp-Ura Powder | 100 g | 332.10 |
| SN1018010 | CSM-Lys-Ura Powder | 10 g | 54.70 |
| SN1018100 | CSM-Lys-Ura Powder | 100 g | 332.10 |
| SN1019010 | CSM-Met Powder | 10 g | 80.50 |
| SN1019100 | CSM-Met Powder | 100 g | 621.10 |
| SN1020010 | CSM-Met-Trp Powder | 10 g | 80.50 |
| SN1020100 | CSM-Met-Trp Powder | 100 g | 621.10 |
| SN1092010 | CSM-Met-Ura Powder | 10 g | 80.50 |
| SN1092100 | CSM-Met-Ura Powder | 100 g | 621.10 |
| SN1050010 | CSM-Phe Powder | 10 g | 54.70 |
| SN1050100 | CSM-Phe Powder | 100 g | 332.10 |
| SN1055010 | CSM-Phe-Tyr Powder | 10 g | 54.70 |
| SN1055100 | CSM-Phe-Tyr Powder | 100 g | 332.10 |
| SN1045010 | CSM-Thr Powder | 10 g | 54.70 |
| SN1045100 | CSM-Thr Powder | 100 g | 332.10 |
| SN1007010 | CSM-Trp Powder | 10 g | 54.70 |
| SN1007100 | CSM-Trp Powder | 100 g | 332.10 |
| SN1116010 | CSM-Trp+Ade20 Powder | 10 g | 54.70 |
| SN1116100 | CSM-Trp+Ade20 Powder | 100 g | 332.10 |
| SN1102010 | CSM-Trp+Ade40 Powder | 10 g | 54.70 |
| SN1102100 | CSM-Trp+Ade40 Powder | 100 g | 332.10 |
| SN1010010 | CSM-Trp-Ura Powder | 10 g | 54.70 |
| SN1010100 | CSM-Trp-Ura Powder | 100 g | 332.10 |
| SN1114010 | CSM-Trp-Ura+Ade40 Powder | 10 g | 54.70 |
| SN1114100 | CSM-Trp-Ura+Ade40 Powder | 100 g | 332.10 |
| SN1047010 | CSM-Tyr Powder | 10 g | 54.70 |
| SN1047100 | CSM-Tyr Powder | 100 g | 332.10 |
| SN1004010 | CSM-Ura Powder | 10 g | 54.70 |
| SN1004100 | CSM-Ura Powder | 100 g | 332.10 |
| SN1104010 | CSM-Ura+Ade20 Powder | 10 g | 34.70 |
| SN1104100 | CSM-Ura+Ade20 Powder | 100 g | 332.10 |
| SN1103010 | CSM-Ura+Ade40 Powder | 10 g | 54.70 |
| SN1103100 | CSM-Ura+Ade40 Powder | 100 g | 332.10 |
| SN1049010 | CSM-Val Powder | 10 g | 54.70 |
| SN1049100 | CSM-Val Powder | 100 g | 332.10 |

SUNRISE YEAST PEPTONE DEXTROSE (YPD)

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------|------------------|---------|
| SN1875019 | YPD Medium, Sterile | 500 mL | \$66.20 |
| SN1875025 | YPD Powder | 25 g | 24.40 |
| SN1875100 | YPD Powder | 100 g | 33.10 |
| SN18751KG | YPD Powder | 1 kg | 160.60 |
| SN1875250 | YPD Powder | 250 g | 50.30 |
| SN1875400 | YPD Powder | 10 x 1 L Pouches | 115.60 |
| SN1875500 | YPD Powder | 500 g | 90.90 |
| SN1876025 | YPD Agar | 25 g | 24.40 |
| SN18761KG | YPD Agar | 1 kg | 183.40 |
| SN1876250 | YPD Agar | 250 g | 50.70 |
| SN1876500 | YPD Agar | 500 g | 100.00 |

SUNRISE BRENT SUPPLEMENT MIXTURE (BSM)

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|---------|
| SN1382025 | BSM-Ura Powder | 25 g | \$65.30 |
| SN1383100 | BSM-His-Leu-Lys-Trp-Ura+Ile30 Powder | 100 g | 235.20 |
| SN1384025 | BSM-Iso-Ura Powder | 25 g | 65.30 |

SUNRISE HOLLENBERG SUPPLEMENT MIXTURE (HSM)

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------|----------|----------|
| SN1410100 | HSM Powder | 100 g | \$538.50 |
| SN1421100 | HSM-His-Leu-Lys-Trp-Ura Powder | 100 g | 538.50 |
| SN1424100 | HSM-Ade-Ura Powder | 100 g | 538.50 |
| SN1417100 | HSM-His-Lys-Trp-Ura Powder | 100 g | 538.50 |
| SN1418100 | HSM-Lys-Trp-Ura Powder | 100 g | 538.50 |
| SN1419100 | HSM-Leu-Lys-Ura Powder | 100 g | 538.50 |
| SN1420100 | HSM-Leu-Lys-Trp-Ura Powder | 100 g | 538.50 |





SUNRISE SCIENCE PRODUCTS

SUNRISE SYNTHETIC COMPLETE MIXTURE (SC)

| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------------|----------|------------|
| SN1381030 | SC + 1mg/mL FOA Powder | 30 g | \$1,675.30 |
| SN1300030 | SC Powder | 30 g | 180.80 |
| SN1301030 | SC-Ade-His-Leu-Trp-Ura Powder | 30 g | 180.80 |
| SN1302030 | SC-Ade Powder | 30 g | 180.80 |
| SN1303030 | SC-His Powder | 30 g | 180.80 |
| SN1304030 | SC-Leu Powder | 30 g | 180.80 |
| SN1305030 | SC-Trp Powder | 30 g | 180.80 |
| SN1306030 | SC-Ura Powder | 30 g | 180.80 |
| SN1307030 | SC-Lys Powder | 30 g | 180.80 |
| SN1309030 | SC-His-Ura Powder | 30 g | 180.80 |
| SN1310030 | SC-Ade-His Powder | 30 g | 180.50 |
| SN1311030 | SC-Ade-Leu Powder | 30 g | 180.50 |
| SN1312030 | SC-Ade-Trp Powder | 30 g | 180.50 |
| SN1313030 | SC-Ade-Ura Powder | 30 g | 180.50 |
| SN1314030 | SC-His-Leu Powder | 30 g | 180.50 |
| SN1315030 | SC-His-Trp Powder | 30 g | 180.50 |
| SN1316030 | SC-Trp-Ura Powder | 30 g | 180.50 |
| SN1317030 | SC-Leu-Trp Powder | 30 g | 180.50 |
| SN1318030 | SC-Leu-Ura Powder | 30 g | 180.50 |
| SN1319030 | SC-Cys-Met Powder | 30 g | 193.50 |
| SN1324030 | SC-His-Leu-Met Powder | 30 g | 193.50 |
| SN1325030 | SC-His-Leu-Trp Powder | 30 g | 180.50 |
| SN1326030 | SC-His-Trp-Ura Powder | 30 g | 180.50 |
| SN1327030 | SC-His-Leu-Ura Powder | 30 g | 180.50 |
| SN1328030 | SC-Leu-Trp-Ura Powder | 30 g | 180.50 |
| SN1330030 | SC-Ade-His-Leu-Trp Powder | 30 g | 180.50 |
| SN1331030 | SC-Ade-His-Leu-Ura Powder | 30 g | 180.50 |
| SN1332030 | SC-Ade-His-Trp-Ura Powder | 30 g | 180.50 |
| SN1333030 | SC-Ade-Leu-Trp-Ura Powder | 30 g | 180.50 |
| SN1334030 | SC-His-Leu-Trp-Ura Powder | 30 g | 180.50 |
| SN1335030 | SC-Cys-Leu-Met-Ura Powder | 30 g | 180.50 |
| SN1336030 | SC-His-Leu-Lys-Trp-Ura Powder | 30 g | 180.50 |
| SN1340030 | SC-Arg-Glu-Lys Powder | 30 g | 180.50 |
| SN1341030 | SC-Arg-His-Leu Powder | 30 g | 180.50 |
| SN1342030 | SC-Arg-His-Leu-Ura Powder | 30 g | 180.50 |
| SN1343030 | SC-Met Powder | 30 g | 193.50 |
| SN1344030 | SC-Met-Ura Powder | 30 g | 193.50 |
| SN1350030 | SC-Cys-His-Leu-Met-Ura Powder | 30 g | 193.50 |

SUNRISE RICH/UNDEFINED MEDIA

SUNRISE YES MEDIUM

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------|--------------------|----------|
| SN20091Kg | YES 225 Agar Powder | 1 kg | \$165.60 |
| SN2009250 | YES 225 Agar Powder | 250 g | 54.70 |
| SN2009300 | YES 225 Powder | 10 x 0.5 L Pouches | 48.00 |
| SN2009400 | YES 225 Powder | 10 x 1 L Pouches | 89.60 |
| SN2009500 | YES 225 Powder | 500 g | 84.40 |
| SN20101Kg | YES 50 Agar Powder | 1 kg | 192.20 |
| SN2010250 | YES 50 Agar Powder | 250 g | 57.30 |
| SN2010300 | YES 50 Agar Powder | 10 x 0.5 L Pouches | 52.00 |
| SN2010400 | YES 50 Agar Powder | 10 x 1 L Pouches | 103.00 |
| SN2010500 | YES 50 Agar Powder | 500 g | 107.80 |
| SN20111Kg | YES 50 Powder | 1 kg | 165.60 |
| SN2011250 | YES 50 Powder | 250 g | 54.70 |
| SN2011500 | YES 50 Powder | 500 g | 84.40 |
| SN20121Kg | YES 50 Powder | 1 kg | 192.20 |
| SN2012500 | YES 50 Powder | 500 g | 107.80 |

MEDIA FOR S. POMBE — SUNRISE COMPLETE DEFINED MEDIA

SUNRISE EDINBURGH MINIMAL MEDIUM (EMM)

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------------------|--------------------|----------|
| SN2019250 | EMM Low Glucose Powder | 250 g | \$153.00 |
| SN20051Kg | EMM Powder | 1 kg | 367.10 |
| SN20052Kg | EMM Powder | 2 kg | 703.60 |
| SN2005250 | EMM Powder | 250 g | 128.60 |
| SN2005500 | EMM Powder | 500 g | 240.30 |
| SN2005300 | EMM | 10 x 0.5 L Pouches | 102.60 |
| SN2005400 | EMM | 10 x 1 L Pouches | 205.20 |
| SN2020500 | EMM-Dextrose Powder | 500 g | 223.80 |
| SN2022250 | EMM-Inositol Powder | 250 g | 128.60 |
| SN20231Kg | EMM-Nitrogen Powder | 1 kg | 355.00 |
| SN2023250 | EMM-Nitrogen Powder | 250 g | 129.00 |
| SN2023500 | EMM-Nitrogen Powder | 500 g | 232.70 |
| SN2021250 | EMM-Sodium Phosphate Powder | 250 g | 127.30 |
| SN2021500 | EMM-Sodium Phosphate Powder | 500 g | 222.60 |
| SN20061Kg | EMM Agar Powder | 1 kg | 393.60 |
| SN2006500 | EMM Agar Powder | 500 g | 251.60 |
| SN20321Kg | EMM Agar+Ade+His+Lys Powder | 1 kg | 480.60 |

SUNRISE MB MEDIUM

| Product Number | Description | Pkg Size | Price |
|----------------|------------------|----------|----------|
| SN2016250 | MB Medium Powder | 250 g | \$192.20 |

SUNRISE MMA MINIMAL MEDIUM

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------|--------------------|----------|
| SN20151Kg | MMA Agar Powder | 1 kg | \$342.90 |
| SN2015250 | MMA Agar Powder | 250 g | 101.30 |
| SN2015300 | MMA Agar Powder | 10 x 0.5 L Pouches | 77.90 |
| SN2015400 | MMA Agar Powder | 10 x 1 L Pouches | 154.60 |
| SN2015500 | MMA Agar Powder | 500 g | 192.20 |

SUNRISE SP SUPPLEMENTS

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------------|----------|---------|
| SN2200010 | SP Complete Supplements | 10 g | \$30.20 |
| SN2200100 | SP Complete Supplements | 100 g | 220.00 |
| SN2201010 | SP-Leu-Ura Supplements | 10 g | 30.20 |
| SN2201100 | SP-Leu-Ura Supplements | 100 g | 220.00 |
| SN2202010 | SP-Lys Supplements | 10 g | 30.20 |
| SN2202100 | SP-Lys Supplements | 100 g | 220.00 |
| SN2203010 | SP-Leu Supplements Powder | 10 g | 30.20 |
| SN2203100 | SP-Leu Supplements Powder | 100 g | 220.00 |





**MEDIA FOR S. CERVISIAE —
SUNRISE COMPLETE DEFINED MEDIA (YNB + NITROGEN + DEXTROSE + AAs)**

SUNRISE SYNTHETIC DEFINED MEDIA

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------------|--------------------|---------|
| SN1789050 | SD-Leu-Ura-Dextrose Powder | 50 g | \$71.40 |
| SN1701300 | SD Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1701500 | SD Powder | 500 g | 332.10 |
| SN1702300 | SDA Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1702500 | SDA Powder | 500 g | 338.10 |
| SN1703010 | SD-Ura Powder | 10 g | 24.40 |
| SN1703300 | SD-Ura Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1703400 | SD-Ura Powder | 10 x 1 L Pouches | 219.50 |
| SN1703500 | SD-Ura Powder | 500 g | 332.10 |
| SN1704010 | SDA-Ura Powder | 10 g | 24.40 |
| SN1704300 | SDA-Ura Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1704500 | SDA-Ura Powder | 500 g | 338.10 |
| SN1705300 | SD-His Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1705500 | SD-His Powder | 500 g | 332.10 |
| SN1706010 | SDA-His Powder | 10 g | 24.40 |
| SN1706300 | SDA-His | 10 x 0.5 L Pouches | 177.00 |
| SN1706500 | SDA-His Powder | 500 g | 338.10 |
| SN1707010 | SD-Leu Powder | 10 g | 24.40 |
| SN1707300 | SD-Leu Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1707400 | SD-Leu Powder | 10 x 1 L Pouches | 219.50 |
| SN1707500 | SD-Leu Powder | 500 g | 332.10 |
| SN1708010 | SDA-Leu Powder | 10 g | 24.40 |
| SN1708300 | SDA-Leu Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1708500 | SDA-Leu Powder | 500 g | 338.10 |
| SN1709010 | SD-Trp Powder | 10 g | 24.40 |
| SN1709300 | SD-Trp Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1709500 | SD-Trp Powder | 500 g | 332.10 |
| SN1710010 | SDA-Trp Powder | 10 g | 24.40 |
| SN1710300 | SDA-Trp Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1710500 | SDA-Trp Powder | 500 g | 338.10 |
| SN1711300 | SD-Ade Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1711500 | SD-Ade Powder | 500 g | 332.10 |
| SN1712010 | SDA-Ade Powder | 10 g | 24.40 |
| SN1712300 | SDA-Ade Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1712500 | SDA-Ade Powder | 500 g | 338.10 |
| SN1712700 | SDA-Ade Agar Plates | 10 plates | 65.30 |
| SN1713300 | SD-His-Leu Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1713500 | SD-His-Leu Powder | 500 g | 332.10 |
| SN1714300 | SDA-His-Leu Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1714500 | SDA-His-Leu Powder | 500 g | 338.10 |
| SN1715300 | SD-His-Trp Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1715500 | SD-His-Trp Powder | 500 g | 332.10 |
| SN1716300 | SDA-His-Trp Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1716500 | SDA-His-Trp Powder | 500 g | 338.10 |
| SN1717300 | SD-His-Ura Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1717500 | SD-His-Ura Powder | 500 g | 332.10 |
| SN1718300 | SDA-His-Ura Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1718500 | SDA-His-Ura Powder | 500 g | 338.10 |
| SN1719010 | SD-Leu-Trp Powder | 10 g | 24.40 |
| SN1719300 | SD-Leu-Trp Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1719500 | SD-Leu-Trp Powder | 500 g | 332.10 |
| SN1720010 | SDA-Leu-Trp Powder | 10 g | 24.40 |
| SN1720300 | SDA-Leu-Trp Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1720500 | SDA-Leu-Trp Powder | 500 g | 338.10 |
| SN1721300 | SD-Leu-Ura Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1721500 | SD-Leu-Ura Powder | 500 g | 332.10 |
| SN1722300 | SDA-Leu-Ura Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1722500 | SDA-Leu-Ura Powder | 500 g | 338.10 |
| SN1723300 | SD-Trp-Ura Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1723500 | SD-Trp-Ura Powder | 500 g | 332.10 |
| SN1724300 | SDA-Trp-Ura Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1724500 | SDA-Trp-Ura Powder | 500 g | 338.10 |

| Product Number | Description | Pkg Size | Price |
|----------------|---|--------------------|----------|
| SN1725300 | SD-His-Leu-Trp Powder | 10 x 0.5 L Pouches | \$111.70 |
| SN1725500 | SD-His-Leu-Trp Powder | 500 g | 332.10 |
| SN1726300 | SDA-His-Leu-Trp Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1726500 | SDA-His-Leu-Trp Powder | 500 g | 338.10 |
| SN1727300 | SD-His-Leu-Ura Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1727500 | SD-His-Leu-Ura Powder | 500 g | 332.10 |
| SN1728300 | SDA-His-Leu-Ura Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1728500 | SDA-His-Leu-Ura Powder | 500 g | 338.10 |
| SN1729300 | SD-Leu-Trp-Ura Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1729400 | SD-Leu-Trp-Ura Powder | 10 x 1 L Pouches | 219.50 |
| SN1729500 | SD-Leu-Trp-Ura Powder | 500 g | 332.10 |
| SN1730300 | SDA-Leu-Trp-Ura Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1730500 | SDA-Leu-Trp-Ura Powder | 500 g | 338.10 |
| SN1731300 | SD-His-Leu-Trp-Ura Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1731500 | SD-His-Leu-Trp-Ura Powder | 500 g | 332.10 |
| SN1732300 | SDA-His-Leu-Trp-Ura Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1732500 | SDA-His-Leu-Trp-Ura Powder | 500 g | 338.10 |
| SN1733300 | SD-His-Trp-Ura Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1733500 | SD-His-Trp-Ura Powder | 500 g | 332.10 |
| SN1734300 | SDA-His-Trp-Ura Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1734500 | SDA-His-Trp-Ura Powder | 500 g | 338.10 |
| SN1735300 | SD-Ade-His-Leu-Trp Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1735500 | SD-Ade-His-Leu-Trp Powder | 500 g | 332.10 |
| SN1736300 | SDA-Ade-His-Leu-Trp Powder | 10 x 0.5 L Pouches | 177.00 |
| SN1736500 | SDA-Ade-His-Leu-Trp Powder | 500 g | 338.10 |
| SN1737100 | SD-His-Met-Trp-Ura Powder | 100 g | 84.40 |
| SN1737500 | SD-His-Met-Trp-Ura Powder | 500 g | 392.40 |
| SN1739100 | SD-His-Leu-Met-Trp-Ura Powder | 100 g | 84.40 |
| SN1739500 | SD-His-Leu-Met-Trp-Ura Powder | 500 g | 392.40 |
| SN1740100 | SD-Met Powder | 100 g | 84.40 |
| SN1740300 | SD-Met Powder | 10 x 0.5 L Pouches | 120.80 |
| SN1740500 | SD-Met Powder | 500 g | 392.40 |
| SN1743300 | SD-Ile Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1743500 | SD-Ile Powder | 500 g | 332.10 |
| SN1745300 | SD-Lys Powder | 10 x 0.5 L Pouches | 111.70 |
| SN1745500 | SD-Lys Powder | 500 g | 332.10 |
| SN1770700 | SDA-His+Ade20 Agar Plates | 10 plates | 65.30 |
| SN1780100 | SD-Leu-Met-Trp-Ura Powder | 100 g | 84.40 |
| SN1780300 | SD-Leu-Met-Trp-Ura Powder | 10 x 0.5 L Pouches | 120.80 |
| SN1780500 | SD-Leu-Met-Trp-Ura Powder | 500 g | 392.40 |
| SN1781100 | SD-Leu-Met-Trp Powder | 100 g | 84.40 |
| SN1781300 | SD-Leu-Met-Trp Powder | 10 x 0.5 L Pouches | 120.80 |
| SN1781500 | SD-Leu-Met-Trp Powder | 500 g | 392.40 |
| SN1782250 | SDA +1mg/mL FOA Powder | 250 g | 1,040.30 |
| SN1787100 | SD-His-Leu-Met-Trp-Ura-Dextrose Powder | 100 g | 146.70 |
| SN1788100 | SD-His-Leu-Trp-Ura-Dextrose Powder | 100 g | 102.60 |
| SN1788500 | SD-His-Leu-Trp-Ura-Dextrose Powder | 500 g | 398.50 |
| SN1790500 | SD-His-Leu-Ura 2% Galactose Powder | 500 g | 545.80 |
| SN1791500 | SD-His-Leu-Ura 2% Raffinose Powder | 500 g | 689.60 |
| SN1792100 | SD-Leu 2% Galactose 1% Raffinose Powder | 100 g | 194.70 |
| SN1792250 | SD-Leu 2% Galactose 1% Raffinose Powder | 250 g | 421.40 |
| SN1793100 | SD-Leu-Ura 2% Galactose 1% Raffinose Powder | 100 g | 194.70 |



SUNRISE SCIENCE PRODUCTS

SUNRISE DROPOUT BASES (YNB + NITROGEN + SUGAR)

SUNRISE DROPOUT BASES

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|----------|
| SN16501KG | DOB Powder | 1 kg | \$449.20 |
| SN1650250 | DOB Powder | 250 g | 130.20 |
| SN1650500 | DOB Powder | 500 g | 247.80 |
| SN16511KG | DOBA Powder | 1 kg | 654.80 |
| SN1651250 | DOBA Powder | 250 g | 197.30 |
| SN1651500 | DOBA Powder | 500 g | 359.80 |
| SN16521KG | DOB 2% Galactose Powder | 1 kg | 870.80 |
| SN1652250 | DOB 2% Galactose Powder | 250 g | 251.20 |
| SN1652500 | DOB 2% Galactose Powder | 500 g | 478.20 |
| SN16531KG | DOBA 2% Galactose Powder | 1 kg | 1,128.50 |
| SN1653250 | DOBA 2% Galactose Powder | 250 g | 326.00 |
| SN1653500 | DOBA 2% Galactose Powder | 500 g | 596.80 |
| SN16541KG | DOB 2% Raffinose Powder | 1 kg | 1,648.60 |
| SN1654250 | DOB 2% Raffinose Powder | 250 g | 477.00 |
| SN1654500 | DOB 2% Raffinose Powder | 500 g | 870.80 |
| SN16551KG | DOBA 2% Raffinose Powder | 1 kg | 1,606.80 |
| SN1655250 | DOBA 2% Raffinose Powder | 250 g | 463.70 |
| SN1655500 | DOBA 2% Raffinose Powder | 500 g | 847.50 |
| SN16561KG | DOB 2% Galactose 1% Raffinose Powder | 1 kg | 1,370.00 |
| SN1656250 | DOB 2% Galactose 1% Raffinose Powder | 250 g | 375.50 |
| SN1656500 | DOB 2% Galactose 1% Raffinose Powder | 500 g | 689.60 |
| SN1590100 | MV Agar | 100 g | 28.70 |

SUNRISE YEAST NITROGEN BASES (YNB +/- NITROGEN)

SUNRISE YEAST NITROGEN BASES

| Product Number | Description | Pkg* Size | Price |
|----------------|---|-----------|---------|
| SN1500100 | YNB Powder | 100 g | \$66.70 |
| SN1501100 | YNB+Nitrogen Powder | 100 g | 71.40 |
| SN1525100 | YNB-Ca-Mg Powder | 100 g | 66.70 |
| SN1526250 | YNB-Cu-Fe Powder | 250 g | 273.10 |
| SN1527250 | YNB+Nitrogen-Cu-Fe Powder | 250 g | 180.80 |
| SN1528100 | YNB+Nitrogen-Calcium Powder | 100 g | 71.40 |
| SN1529100 | YNB-Calcium Powder | 100 g | 66.70 |
| SN1531100 | YNB+Nitrogen-Sulfate Powder | 100 g | 71.40 |
| SN1532500 | YNB-Potassium Phosphate Powder | 500 g | 265.70 |
| SN1533050 | YNB-Inositol Powder | 50 g | 53.30 |
| SN1534050 | YNB-Thiamine Powder | 50g | 53.30 |
| SN1535250 | YNB-Folic Acid-Riboflavin Powder | 250 g | 146.70 |
| SN1536250 | YNB+Nitrogen-Folic Acid-Riboflavin Powder | 250 g | 155.50 |
| SN1537250 | YNB+Nitrogen-Thiamine Powder | 250 g | 155.50 |
| SN1538250 | YNB-Sulfate Powder | 250 g | 146.70 |
| SN1539250 | YNB+Nitrogen-Manganese Powder | 250 g | 155.50 |
| SN1540250 | YNB+Nitrogen-Phosphate and Divalent Cations | 250 g | 155.50 |
| SN1541250 | YNB-Zinc Powder | 250 g | 146.70 |
| SN19980201L | Burkhalter Media Liquid | 1 L | 56.00 |
| SN1998020500 | Burkhalter Media Powder, 500 | 500 g | 194.70 |

* Larger package sizes are available. Please inquire.

SUNRISE RICH/UNDEFINED MEDIA

SUNRISE YPD, AHC, YEP, YE, ME

YPD (YEPD) Medium contains peptone (20g/L), yeast extract (10g/L) and dextrose (20g/L). YPAD contains the same plus 40mg/L Adenine.

AHC Media contains Yeast Nitrogen Base (1.7g/L), ammonium sulfate (5g/L) and dextrose (20g/L), adenine sulfate (0.02g/L) and casein hydrolysate (10g/L).

YEP Medium contains peptone (20g/L) and yeast extract (10g/L).

YE Medium contains dextrose (30g/L) and yeast extract (5g/L).

YM Medium contains yeast extract (3g/L), malt extract (3g/L), peptone (5g/L) and dextrose (10g/L).

ME Medium contains malt extract (30g/L) and 50 mg/L each of adenine, histidine, leucine and uracil.

All agar formulations also contain 17g/L agar except YM, which contains 20g/L agar.

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------|------------------|----------|
| SN18801KG | YPAD Agar Powder | 1 kg | \$201.10 |
| SN1880400 | YPAD Agar Powder | 10 x 1 L Pouches | 181.90 |
| SN1880250 | YPAD Agar Powder | 250 g | 57.30 |
| SN1880500 | YPAD Agar Powder | 500 g | 109.10 |
| SN18791KG | YPAD Powder | 1 kg | 177.00 |
| SN1879400 | YPAD Powder | 10 x 1 L Pouches | 127.30 |
| SN1879250 | YPAD Powder | 250 g | 50.70 |
| SN1879500 | YPAD Powder | 500 g | 100.00 |
| SN18761KG | YPD Agar | 1 kg | 183.40 |
| SN1876400 | YPD Agar | 10 x 1 L Pouches | 160.60 |
| SN1876025 | YPD Agar | 250 g | 24.40 |
| SN1876250 | YPD Agar | 250 g | 50.70 |
| SN1876500 | YPD Agar | 500 g | 100.00 |
| SN1875019 | YPD Medium, Sterile | 500 mL | 66.20 |
| SN1875400 | YPD Powder | 10 x 1 L Pouches | 115.60 |
| SN1875100 | YPD Powder | 100 g | 33.10 |
| SN18751KG | YPD Powder | 1 kg | 160.60 |
| SN1875025 | YPD Powder | 25 g | 24.40 |
| SN1875250 | YPD Powder | 250 g | 50.30 |
| SN1875500 | YPD Powder | 500 g | 90.90 |
| SN1691250 | AHC Powder | 250 g | 179.60 |
| SN1691500 | AHC Powder | 500 g | 341.70 |
| SN1692250 | AHC Agar Powder | 250 g | 189.70 |
| SN1692500 | AHC Agar Powder | 500 g | 361.00 |
| SN18771KG | YEP Powder | 1 kg | 246.60 |
| SN1877250 | YEP Powder | 250 g | 83.10 |
| SN1877400 | YEP Powder | 10 x 1 L Pouches | 213.00 |
| SN1877500 | YEP Powder | 500 g | 145.40 |
| SN20071KG | YE Powder | 1 kg | 225.10 |
| SN2007250 | YE Powder | 250 g | 67.50 |
| SN2007500 | YE Powder | 500 g | 122.10 |
| SN20081KG | YE Agar Powder | 1 kg | 246.60 |
| SN2008250 | YE Agar Powder | 250 g | 77.90 |
| SN2008500 | YE Agar Powder | 500 g | 139.10 |
| SN1870500 | YM Powder | 500 g | 153.00 |
| SN1871500 | YM Agar Powder | 500 g | 168.20 |
| SN2013500 | ME Powder | 500 g | 245.10 |
| SN2014500 | ME Agar Powder | 500 g | 241.50 |

Please contact our Technical Support Department at 1-888-593-5969 or tech@biolynx.ca if you require any assistance with your product selection.



SUNRISE SCIENCE PRODUCTS

SUNRISE SPORULATION MEDIA

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------------------|----------|----------|
| SN1821250 | Presporulation Medium Broth | 250 g | \$188.40 |
| SN1821500 | Presporulation Medium Broth | 500 g | 349.00 |
| SN1822250 | Sporulation Medium Agar | 250 g | 178.30 |
| SN1822500 | Sporulation Medium Agar | 500 g | 324.80 |
| SN1882100 | YKAC Agar | 100 g | 46.00 |

SUNRISE SUPPLEMENTS, ADDITIVES AND RAW MATERIALS

SUNRISE AMINO ACIDS

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|----------|
| SN1997005 | DL-homoserine, Yeast Culture Grade | 5 g | \$294.60 |
| SN1970010 | L-alanine, Yeast Culture Grade | 10 g | 24.40 |
| SN1971010 | L-arginine, Yeast Culture Grade | 10 g | 24.40 |
| SN1972010 | L-asparagine, Yeast Culture Grade | 10 g | 24.40 |
| SN1973010 | L-aspartic acid, Yeast Culture Grade | 10 g | 24.40 |
| SN1974010 | L-cysteine, Yeast Culture Grade | 10 g | 24.40 |
| SN1976010 | L-glutamic acid, Yeast Culture Grade | 10 g | 24.40 |
| SN1975010 | L-glutamine, Yeast Culture Grade | 10 g | 24.40 |
| SN1977010 | L-glycine, Yeast Culture Grade | 10 g | 24.40 |
| SN1978010 | L-histidine, Yeast Culture Grade | 10 g | 24.40 |
| SN1979010 | L-isoleucine, Yeast Culture Grade | 10 g | 24.40 |
| SN1980010 | L-leucine, Yeast Culture Grade | 10 g | 35.90 |
| SN1981010 | L-lysine, Yeast Culture Grade | 10 g | 24.40 |
| SN1982010 | L-methionine, Yeast Culture Grade | 10 g | 24.40 |
| SN1983010 | L-phenylalanine, Yeast Culture Grade | 10 g | 24.40 |
| SN1984010 | L-proline, Yeast Culture Grade | 10 g | 24.40 |
| SN1985010 | L-serine, Yeast Culture Grade | 10 g | 35.90 |
| SN1986010 | L-threonine, Yeast Culture Grade | 10 g | 24.40 |
| SN1987010 | L-tryptophan, Yeast Culture Grade | 10 g | 35.90 |
| SN1988010 | L-tyrosine, Yeast Culture Grade | 10 g | 24.40 |
| SN1989010 | L-valine, Yeast Culture Grade | 10 g | 24.40 |

SUNRISE SUGARS

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------|----------|----------|
| SN1901500 | Galactose, 20% (sterile) | 500 mL | \$134.00 |
| SN1908250 | Galactose Powder | 250 g | 153.00 |
| SN1908500 | Galactose Powder | 500 g | 293.40 |
| SN19081KG | Galactose Powder | 1 kg | 578.40 |
| SN1900500 | Glucose, 20% (sterile) | 500 mL | 37.40 |
| SN1907250 | Glucose Powder | 250 g | 23.00 |
| SN1907500 | Glucose Powder | 500 g | 38.80 |
| SN1902500 | Raffinose, 20% (sterile) | 500 mL | 332.10 |
| SN1909025 | Raffinose Powder | 25 g | 52.00 |
| SN1909250 | Raffinose Powder | 250 g | 392.40 |
| SN1909500 | Raffinose Powder | 500 g | 734.90 |
| SN1916500 | Sorbitol Powder | 500 g | 41.70 |
| SN19161KG | Sorbitol Powder | 1 kg | 74.00 |

SUNRISE BUFFERS

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| SN5800500 | 10X PBS (Sodium Salts, Sterile), pH 7.3-7.5 | 500 mL | \$30.20 |

SUNRISE RAW MATERIALS

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------------|----------|---------|
| SN1996010 | 4-aminobenzoic acid (PABA) | 10 g | \$23.00 |
| SN1905010 | Adenine Hemisulfate | 10 g | 71.40 |
| SN1910030 | Agar, Yeast Culture Grade | 30 g | 31.60 |
| SN1910500 | Agar, Yeast Culture Grade | 500 g | 113.00 |
| SN19101Kg | Agar, Yeast Culture Grade | 1 kg | 221.30 |
| SN1911100 | Ammonium Sulfate Powder | 100 g | 109.10 |
| SN1911250 | Ammonium Sulfate Powder | 250 g | 251.60 |
| SN1911500 | Ammonium Sulfate Powder | 500 g | 481.80 |
| SN19111Kg | Ammonium Sulfate Powder | 1 kg | 877.70 |
| SN1914500 | Tryptone Powder | 500 g | 79.20 |
| SN19141KG | Tryptone Powder | 1 kg | 146.70 |
| SN1906010 | Uracil | 10 g | 24.40 |
| SN1912500 | Yeast Extract, Granulated | 500 g | 128.60 |
| SN19121KG | Yeast Extract, Granulated | 1 kg | 250.40 |

SUNRISE SUPPLEMENTS

| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------------|----------|---------|
| SN1920010 | 3-AT (3 amino-1,2,4-triazole) | 10 g | \$38.80 |
| SN1920050 | 3-AT (3 amino-1,2,4-triazole) | 50 g | 93.50 |
| SN1920010 | 3-AT (3 amino-1,2,4-triazole) | 10 g | 38.80 |
| SN1921001 | 5-FOA (5-Fluoroorotic acid) | 1 g | 165.60 |
| SN1995010 | Inositol, Yeast Culture Grade | 10 g | 35.90 |
| SN1994010 | Thiamine HCl | 10 g | 35.90 |

SUNRISE EZ-Plate™ BEADS

- Consistent distribution of colonies
- Eliminate hazards of flame, ethanol and glass rods
- Plate cells in just seconds



Sterile EZ-Plate™ Beads allow the plating of 25-400 uL of bacterial or yeast cells across the surface of an agar plate, providing a safer, faster alternative to a glass rod sterilized with ethanol and flame. Dispense several glass beads per plate from the convenient, skirted 50 ml conical tube. Pack of 2 contains enough beads for 160 standard 100 mm plates.

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------|----------|---------|
| SN3001000 | EZ-Plate™ Beads | 2 Pack | \$23.00 |

SUNRISE EZ-Grid™ COLONY TEMPLATES

Reusable EZ-Grid™ Colony Templates adhere to the outside of a standard 100 mm Petri dish. Notched for orientation, grids are available in both 24-square and 48-square grids.



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| SN300224 | EZ-Grid™ Colony Templates, 24-square grids | 10 Pack | \$21.60 |
| SN300248 | EZ-Grid™ Colony Templates, 48-square grids | 10 Pack | 21.60 |

ACCELERATE YOUR RESEARCH GROWTH

FNC Coating Mix®

FNC Coating Mix® is a specially formulated serum-free tissue culture reagent used to enhance the attachment of adherent cells to plastic flasks or microplates. The unique formula creates an extracellular matrix that dramatically increases the rate of cell attachment to any plastic substratum.

FNC Coating Mix® is extensively used with cell biology and cancer research in corneal, prostate, breast, bronchial, pulmonary, and conjunctival cell lines.

Effect of FNC Coating Mix® on Monolayer Cell Cultures



The above photographs show the difference in monolayer development of BRFF-55T prostate cancer cells with and without FNC Coating Mix®. Dense cell growth is apparent in the flask on the left, which was precoated with FNC Coating Mix®.

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------|----------|---------|
| AES0407 | FNC Coating Mix | 50 mL | \$97.40 |



For further information, please contact the MJS BioLynx Technical Support Team at:
1-888-593-5969 • www.biolyinx.ca • tech@biolyinx.ca



Simple Solutions for Complex Proteins

ATHENA MEDIA OPTIMIZATION KITS (MOK™)

Available as Animal-Product-Free / Liquid or Powder Form

- Maximize Soluble Protein
- Dramatic Expression Results
- Available in Animal-Product-Free (APF)
- Available in liquid or powder form
- Many products to choose from - please feel free to ask Mike in Technical Support for assistance



The Media Optimization Kit™, Animal-Product-Free Media Optimization Kit, and new Prime-olate™ APF Media Optimization Kit™ enable researchers to determine the best media formulation that yields the highest amount of target protein. Since the production of a given recombinant protein can vary significantly depending on the type of medium employed, the MOK™s provide four proprietary expression broths, as well as Glucose M9Y, and LB Broth (Miller). The APF kit contains APF Certified™ versions of Athena's proprietary expression media, and the Prime-olate™ Kit contains the new Prime-olate™ expression series, formulated with Athena's casein hydrolysate replacement Atholate™. Each dry powder kit contains enough mix to prepare 1 litre of each of the six media. The ready-to-use liquid kits contain 100mL of each medium.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| AES0100 | Media Optimization Kit™ (MOK™) Includes: LB Broth (Miller) Turbo Broth™ Superior Broth™ Power Broth™ Hyper Broth™ Glucose M9Y Glucose Nutrient Mix | Kit | \$126.50 |
| AES0100APF | APF Media Optimization Kit™ Includes: LB Broth (Miller) Turbo Prime Broth™ Superior Prime Broth™ Power Prime Broth™ Hyper Broth™ Glucose M9Y Glucose Nutrient Mix | Kit | 126.50 |
| AES0128 | Media Optimization Kit™ Liquid Includes: LB Broth (Miller) Turbo Broth™ Superior Broth™ Power Broth™ Hyper Broth™ Glucose M9Y | Kit | 164.50 |
| AES0129 | APF Media Optimization Kit™ Liquid Includes: LB Broth (Miller) Turbo Prime Broth™ Superior Prime Broth™ Power Prime Broth™ Hyper Broth™ Glucose M9Y | Kit | 164.50 |
| AES0169 | MOK Prime-olate™ Includes: LB Broth (Miller) Turbo Prime-olate™ Superior Prime-olate™ Power Prime-olate™ Hyper Broth™ Glucose M9Y Glucose Nutrient Mix | Kit | 151.80 |
| AES0179 | MOK Prime-olate™ Liquid Includes: LB Broth (Miller) Liquid Turbo Prime-olate™ Liquid Superior Prime-olate™ Liquid Power Prime-olate™ Liquid Hyper Broth™ Liquid Glucose M9Y Liquid | Kit | 189.80 |

* Kit components are also available for individual purchase

PROTEIN MICROARRAYS

GENTEL BIOSCIENCES PROTEOMICS MULTI-SYSTEM

Visible wavelength array scanner that is cost effective, fast, and robust

Want more data in less time without the hassle of complicated instrumentation? Your experiments demand equipment that just works...tools that are both versatile and affordable. Look no further than the Gentel Proteomics Multi-System™ and AthenaQuant® software.

The Gentel Proteomics Multi-System™ is a flexibility and easy to use high resolution scanner along with a laptop computer preconfigured with image-capture and analysis software capable of data extraction and quantitation. From antibody, antigen and lysate arrays to multiplex ELISAs and Western blots, the Proteomics Multi-System has you covered with an all-inclusive system...from scan through analysis.



Applications

- High density antibody arrays (qualitative & quantitative) for cancer, allergy, and autoimmune research
- Enables glycan detection, sandwich assays, probing tumor/cell lysates, and biomarker discovery

The Multi-System Gives You More!

More Experiments: 10-fold reduction in cost over fluorescence systems

More Sensitivity: 3-20 fold increase in sensitivity over fluorescence systems

More Comfort: Familiar and easy-to-use 96-well or slide format

More Time: Scan a 96-well plate or 4 slides in only 4 minutes

Learn More... please contact Mike in our Technical Support Department



| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------|----------|-------------|
| GT101030 | Proteomics Multi-System | Each | \$12,400.00 |

GENTEL BIOSCIENCES APiX™ PROTEIN LABELLING AND DETECTION SYSTEM

The APiX™ Protein Labeling and Detection Kit provides an ultra-sensitive detection option for use with a wide variety of sample types, including serum, cell lysates, tissue lysate, and others. The Kit provides a simple and highly sensitive protein labeling system that takes advantage of ULS™ labeling chemistry. The ULS-based labeling procedure requires no special training or techniques and is compatible with Gentel's APiX™ chromogenic detection method.

The entire procedure requires no special training, instrumentation, or techniques and is compatible with Gentel's APiX™ chromogenic detection method. This detection methodology allows for the detection of any biotinylated molecule, generating light grey-to-black spots that are visible to the naked eye and can be scanned with the Gentel Proteomics Multi-System™. APiX uses a patented, gold-catalyzed silver deposition and typically achieves measurably improved sensitivity compared to fluorescence detection.

Applications

- Label-based (single capture) array detection

Benefits

- Superior biotin labeling uniformity per protein and a lower risk of epitope destruction as compared to Isothiocyanate (ITC) or N-hydroxysuccinimide (NHS) labeling methods
- Achieve up to a 5-10X greater assay sensitivity than fluorescence-based detection without sacrificing precision or array density
- Array densities as high as several thousand spots per standard microarray slide or several hundred in a sample well are possible
- Detect and measure low-concentration proteins (pg/mL)
- Store processed slides for later scanning and archive for up to a year
- Kits suitable for labeling either APiX™ slides (clear surface) or porous nitrocellulose slides (white surface)
- 8 labeling reactions per kit
- Detection reagents are stable in the presence of ozone and cannot photo-bleach
- No "blooming"

Features

- Ultra-sensitive detection using patented gold nanoparticle-catalyzed silver deposition technology
- Label 100-120 µg of serum proteins with each 5 µL reaction of Protein Labeling Reagent
- Suitable for use with a variety of array types including antibody, peptide, protein and lysate arrays
- Compatible with a wide variety of microarray slides, including APiX™ Protein Microarray Slide, commercially available porous nitrocellulose array slides, and virtually any other commercially available clear glass slide
- Compatible with the Gentel Proteomics Multi-System and SIMplex multiplexing systems
- Compatible with a growing list of single-capture antibody arrays
- The APiX™ Protein Labeling and Detection Kit includes all the required reagents for detection of biotinylated detector molecules on clear or porous white nitrocellulose microarray slides. APiX™ chromogenic detection uses a patented gold nanoparticle-catalyzed silver deposition technology that is suitable for use with a variety of array types including antibody, peptide, protein, and lysate arrays.

| Product Number | Description | Pkg Size | Price |
|----------------|--|-------------|----------|
| GT51027 | APiX™ Protein Labeling and Detection Kit | 8 reactions | \$895.30 |

GENTEL BIOSCIENCES SIMplex™ MULTIPLEXING SYSTEMS

SIMplex™ 16 - Process 16 microarrays using one APiX™ slide

The SIMplex™ 16 multiplexing system allows the processing of sixteen individual microarrays on a single APiX™ protein microarray slide. SIMplex™ 16 eliminates broken slides, unreliable fasteners, and leaky gaskets. The slide is held in place by a soft silicone gasket that maintains the integrity of your assays on a APiX® ultra-thin nitrocellulose film. The SIMplex™ 16 wells dimensions conform to nine mm center-to-center spacing and are compatible with 8-channel multi-pipettors.

Features of SIMplex™ 16:

- Leak-proof microarray separation
- Increased throughput to process 16 samples simultaneously
- Maintains integrity of APiX® ultra-thin nitrocellulose film
- Compatible with multi-channel pipettors

SIMplex™ 16 System includes:

- 1 Reuseable bottom and top slide holder (a and b respectively)
- Limited use 16 multi-well gasket (c)
- 5 Disposable SIMplex™ 16 Well Seal (not shown)



SIMplex™ 64 Multi-Array System - Process 64 microarrays in parallel using four APiX™ slides

Multiplex immunoassays on SIMplex™ 64 hold up to four ultra-thin film nitrocellulose slides in a 9 mm spaced microplate. SIMplex™ 64 is intuitively designed for liquid microplate handling and compatible with 1x3 inch slide imaging instruments. SIMplex™ 64 chambers separate four APiX™ slides with the upper structure compressed against soft silicone gasket for tight, leak-free seal. Optional configurations are available such as SIMplex™ 16 and SIMplex™ HTS.

Features of SIMplex™ 64:

- Leak-proof microarray separation
- Increased parallel processing of 64 samples simultaneously
- Maintains integrity of ultra-thin nitrocellulose film
- Compatible with multi-channel pipettors

SIMplex™ 64 System includes:

- Reuseable bottom and top slide holder
- 4 Reusable 16 multi-well gaskets
- 25 Disposable SIMplex™ 64 Well Seal (not shown)



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GT41001 | SIMplex™ 16 Multi-Array System, 2 x 8 well | 1 | \$334.90 |
| GT41004 | SIMplex™ Gasket, 2 x 8 well | 4 | 260.70 |
| GT41005 | SIMplex™ Gasket, 2 x 8 well | 10 | 481.50 |
| GT41010 | SIMplex™ Well seal, 2 x 8 well and 3 x 8 well compatible | 5 | 26.20 |
| GT41025 | SIMplex™ 64 Multi-Array System, 4 x (2 x 8 well) | 1 | 620.80 |
| GT41011 | SIMplex™ Well seal, 4 x 16 well and 4 x 24 well compatible | 5 | 53.80 |

GENTEL BIOSCIENCES SLIDES AND REAGENTS

The most dependable protein microarray products for multiplex immunoassays

Gentel offers proven, dependable technology for creating and processing your own protein microarrays.

Gentel Biosciences APiX™ Protein Microarray Slides — *The Clear Choice for Protein Microarray Slides*

The APiX™ Protein Microarray Slide is a glass microscope slide that has been coated with Gentel's proprietary optically clear nitrocellulose. This ultrathin film of nitrocellulose is an excellent substrate for binding antibodies and proteins. The APiX™ Protein Microarray Slide is ready to use right out of the box, there is no "activation" or pre-treatment of the surface required before printing onto the nitrocellulose.

Benefits

- Antibodies and proteins are exceptionally stable when immobilized on nitrocellulose
- Extremely low background for chromogenic detection in serum
- Detect and measure low-concentration proteins using APiX™ Chromogenic reagents
- Slides can be tracked by scanning the barcode, visible in the array scan
- No activation or pre-treatment of the surface required before printing
- Uniform protein binding across entire surface

| Specifications | APiX™ |
|--------------------------|----------------------------|
| Slide Dimensions | 75 x 25 x 1 mm (bar-coded) |
| Nitrocellulose thickness | < 500 nm |
| Usable surface area | 67 x 21 mm |

APiX™ Slide Overview

APiX™ slides are optically clear nitrocellulose-coated slides that are designed to be used in multiplexed colorimetric immunoassays; specifically, with the APiX™ View™ Detection Kits available from Gentel. Nitrocellulose makes an excellent substrate for binding a wide variety of capture agents, including antibodies, proteins and other biomolecules.

The Gentel APiX™ System includes not only slides, but also reagents and analyzers designed for protein microarray applications. APiX™ View™ reagents detect biotin-labeled molecules such as proteins that bind to protein microarrays (shown for a sandwich immunoassay in Figure 1) via a gold nanoparticle-catalyzed silver deposition. This detection scheme is designed to be flexible and can be used with a variety of different assay types; including, but not limited to, sandwich immunoassays, single capture assays, cell lysate screening, antigen arrays and serological screening.

The Gentel Proteomics Multi-System™ is capable of imaging 3 x 1" slides or 96 well plates after the APiX™ View™ (or other colorimetric detection) assay has been completed.

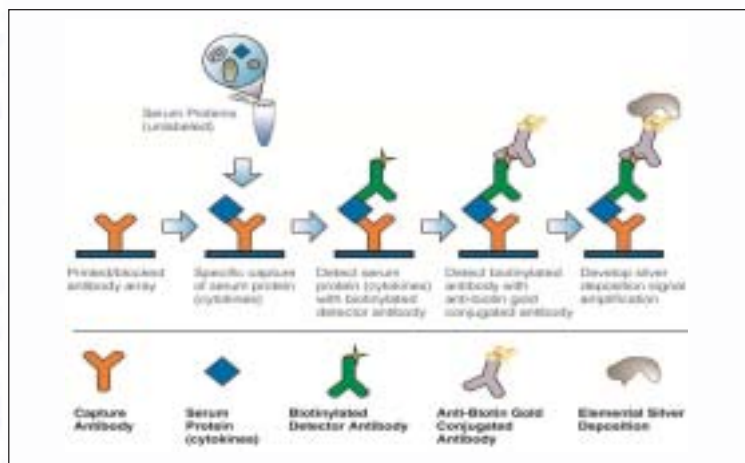


Figure 1. Schematic showing silver precipitation reaction used in the APiX™ View™ Detection Kit for a sandwich immunoassay for cytokines.

Materials Required, But Not Included:

| Component | Description /Recommended Source |
|---------------------------------|---|
| Sample Separator | SIMplex™ 16 Multi-Array System (GT41001), SIMplex™ 24 Multiplexing System (GT41050), or SIMplex™ 64 Multiplexing System (GT41025) |
| Protein Microarray Print Buffer | Gentel® Array Buffer (5X) (GT21012) |
| Protein Microarray Block Buffer | Gentel® Block Buffer (5X) (GT21014) |
| Protein Microarray Wash Buffer | Gentel® Wash Buffer (10X) (GT21016) |
| Protein Microarray Rinse Buffer | Gentel® Rinse Buffer (10X) (GT21018) |
| Microarray Spotter | Compatible with standard microarray spotters |
| Microarray Scanner | Gentel Proteomics Multi-System™ (GT101030) |

Gentel Biosciences APiX™ Protein Microarray Evaluation Kit

The APiX™ Protein Microarray Evaluation Kit includes not only slides, but also chromogenic detection reagents and analyzers designed for protein microarray applications. APiX™ slides are optically clear ultrathin nitrocellulose-coated glass substrates that are optimized for use with the APiX™ View™ Detection Kit.

APiX™ View™ reagents are designed to detect biotin-labeled molecules such as proteins that bind to protein microarrays. This detection scheme is designed to be flexible and can be used with a variety of different assay types; including, but not limited to, sandwich immunoassays, single capture assays, cell lysate screening, antigen arrays and serological screening. The Gentel Proteomics Multi-System™ is capable of imaging 3 x 1" slides or 96 well plates after the APiX™ staining assay has been completed.

| Product Number | Description | Pkg Size | Price |
|----------------|---|-----------|----------|
| GT102008 | APiX™ Protein Microarray Slide Printable Surface Area 1,407 mm ² , (67 x 21 mm) | 2 slides* | \$109.00 |
| GT102031 | APiX™ Protein Microarray Evaluation Kit with printing and detection reagents | 4 slides* | 550.40 |

* Other package sizes available - please inquire.



Gentel Biosciences combines proprietary surface chemistry, custom analysis software and specialized instrumentation into a single platform specifically engineered for automated multiplex protein analysis. They use this platform, coupled with their expertise in developing highly validated assays, to deliver a continually expanding portfolio of the most reliable tools, protein microarray kits and services in the industry.

PROTEIN ARRAY KITS

Below are the Gentel Protein Array Kits currently available. Please contact Mike in Technical Support for further details.

APIX™ Profiling Antibody Arrays

Simultaneously profile the relative concentration of up to 97 cytokines and related proteins with exceptional sensitivity and reproducibility.

APIX™ Quantitative Antibody Arrays

Quantify up to 40 cytokines and related proteins in less than four hours with exceptional sensitivity and reproducibility.

APIX™ Human Tumor Profiling Kits

The APIX™ Human Tumor Profiling kits combine Protein Biotechnologies' SomaPlex™ tissue lysate arrays and Gentel's APIX™ View™ Detection Reagents delivering a rapid, cost-effective and high throughput analysis tool for comparing protein expression level differences in matched patient sample sets for over thirteen cancer sub-types.

APIX™ Disease Profiling Kit

The APIX™ Disease Profiling Kit combines Clontech's Antibody Array 380 and Gentel's APIX™ View™ Detection Reagents delivering a rapid cost-effective high-throughput analysis tool for comparing protein expression levels.

APIX™ Simian Pathogen Array, Version 1

The APIX™ Simian Pathogen Array is a valuable tool for the continual profiling of your specific pathogen-free (SPF) colony. Routine surveillance of your colony with the APIX™ Simian Pathogen Array will give you confidence in your colony health, and reduce the number of samples needing to be tested by more expensive and time-consuming methods.

APIX™ Human Cytokine Kit

The APIX™ Human Cytokine Kit, a 17-plex sandwich microarray, is a quantitative assay that measures cytokine proteins in human serum. Each antibody on the array has been shown to capture its target antigen in a linear fashion and was tested for cross-reactivity with other antigens in the panel.

APIX™ Murine Cytokine Kit

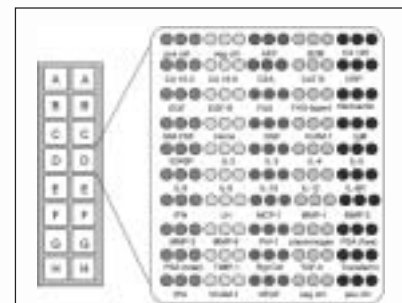
The APIX™ Murine Cytokine Kit, a 12-plex sandwich microarray, is a quantitative assay that measures cytokine proteins in mouse serum. Each antibody on the array has been shown to capture its target antigen in a linear fashion and was tested for cross-reactivity with other antigens in the panel.

APIX™ and PANDEIA Array™ Kits include an expanding portfolio of content-based arrays for multiplex serum and plasma profiling, biomarker discovery and pre-clinical analysis. Gentel's Array Kits are distinguished by their level of validation and performance, thereby ensuring that you obtain reliable results.

Gentel APIX™ Cancer Biomarker Kit

The APIX™ Cancer Biomarker Kit measures the relative abundance of 45 human cancer-related proteins in 8 serum samples simultaneously. This single-capture antibody array and protein labeling system is validated to show the detectable and specific capture of target proteins in serum to ensure that you obtain reliable results.

- Reliable profiling data of 45 cancer proteins per serum sample
- A complete kit with a pre-printed array and labeling reagents
- Cost-effective per sample processing
- Compatibility with standard microarray scanners



APIX™ Cancer Biomarker Array Schematic

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|------------|
| GT81027 | APIX™ Cancer Biomarker Kit Includes: Array and labeling reagents 8 samples | Kit | \$1,102.20 |

Gentel PANDEIA Array™ Cancer Biomarker Kit

The PANDEIA Array™ Cancer Biomarker Kit measures the relative abundance of 46 human cancer-related proteins in 8 serum samples simultaneously. This single-capture antibody array and protein labeling system is validated to show the detectable and specific capture of target proteins in serum to ensure that you obtain reliable results.

- Reliable profiling data of 46 cancer proteins per serum sample
- A complete kit with a pre-printed array and labeling reagents
- Cost-effective per sample processing
- Compatibility with standard microarray scanners

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|------------|
| GT81001 | PANDEIA Array™ Cancer Biomarker Kit Includes: Array and labeling reagents 8 samples | Kit | \$1,102.20 |

PROTEIN MICROARRAYS

PROTEIN BIOTECHNOLOGIES SomaPlex™ PROTEIN MICROARRAYS

To facilitate high-throughput screening of human clinical specimens, Protein Biotechnologies provides its tissue lysate library on ready-to-use protein microarrays. These microarrays promise to dramatically increase the efficiency and speed of research studies by permitting the end user to assay 100+ clinical samples in a single assay.

- Standard microarray slide format with single well
- Small incubation volume (600 µL)
- Available in qualitative and quantitative analysis formats
- Rapid assay time (~4-5 hours using primary and labeled secondary antibodies)
- Optimized microarray buffers and secondary antibodies reduce or eliminate background staining
- Compatible with colourimetric, chemiluminescent and fluorescent detection systems



SomaPlex™ Reverse Phase Protein Microarray — Qualitative
Human Stomach Tumor & Normal Tissue (PBPM8001L)



SomaPlex™ Reverse Phase Protein Microarray — Quantitative
Human Stomach Tumor & Normal Tissue (PBPM8001N)



PROTEOMICS

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| PBPM2001L | Human Breast Tumor & Normal Tissue — Qualitative Microarray | Each | \$363.40 |
| PBPM2001N | Human Breast Tumor & Normal Tissue — Quantitative Microarray | Each | 535.90 |
| PBPM7001L | Human Colon Tumor & Normal Tissue — Qualitative Microarray | Each | 363.40 |
| PBPM7001N | Human Colon Tumor & Normal Tissue — Quantitative Microarray | Each | 535.90 |
| PBPM4001L | Human Female Reproductive Tract Tumor & Normal Tissue — Qualitative Microarray | Each | 363.40 |
| PBPM4001N | Human Female Reproductive Tract Tumor & Normal Tissue — Quantitative Microarray | Each | 535.90 |
| PBPM13001L | Human Larynx & Skin Tumor & Normal Tissue — Qualitative Microarray | Each | 301.80 |
| PBPM13001N | Human Larynx & Skin Tumor & Normal Tissue — Quantitative Microarray | Each | 474.30 |
| PBPM9001L | Human Liver Tumor & Normal Tissue — Qualitative Microarray | Each | 363.40 |
| PBPM9001N | Human Liver Tumor & Normal Tissue — Quantitative | Each | 535.90 |
| PBPM1001L | Human Lung Tumor & Normal Tissue — Qualitative Microarray | Each | 363.40 |
| PBPM1001N | Human Lung Tumor & Normal Tissue — Quantitative Microarray | Each | 535.90 |
| PBPM3001L | Human Prostate, Bladder, Kidney Tumor & Normal Tissue — Qualitative Microarray | Each | 363.40 |
| PBPM3001N | Human Prostate, Bladder, Kidney Tumor & Normal Tissue — Quantitative Microarray | Each | 535.90 |
| PBPM8001L | Human Stomach Tumor & Normal Tissue — Qualitative Microarray | Each | 363.40 |
| PBPM8001N | Human Stomach Tumor & Normal Tissue — Quantitative Microarray | Each | 535.90 |
| PBPM16001L | Human Thyroid Tumor & Normal Tissue — Qualitative Microarray | Each | 363.40 |
| PBPM16001N | Human Thyroid Tumor & Normal Tissue — Quantitative Microarray | Each | 535.90 |

PROTEIN BIOTECHNOLOGIES TISSUE MICROARRAYS

For protein localization, immunohistochemical and in-situ hybridization studies, tissue microarrays are an ideal method for studying multiple human cancer / normal tissues in a single assay. They increase throughput, conserve precious tissue resources, improve internal experimental controls, and reduce reagent consumption.

Protein Biotechnologies has assembled the largest and most comprehensive collection of ready-to-use human protein extracts on the market. Human tissue samples are flash frozen to -120°C within 5-10 minutes of removal ensuring that specimens are of the highest quality available.

Matched Human Tumor / Normal Tissue Lysates

Currently available specimens include: Bladder, breast, colon, female reproductive tract, kidney, larynx, leukemia and bone marrow, liver, lung, lymphoma, prostate, skin, stomach, testis and thyroid.

Normal Human, Mouse, Rat Tissue Lysates and Cell Line Lysates are also available!

These tissue lysates are ideal for biomarker identification / screening, antibody detection / characterization, protein-protein interaction, protein expression, ligand binding, ELISA, immunoprecipitation, 1D and 2D gel electrophoresis, and Western blotting.

All human materials are obtained under strict bioethical standards using IRB-approved protocols that ensure patient confidentiality, safety and informed consent.

These same lysates are available in microarray dipstick format (Dip-N-Spots™) and as pre-run Western Blot Dipsticks (Dip-N-Blots™).

| Product Number | Description | Cores | Pkg Size | Price |
|----------------------|---|-------|----------|----------|
| Bladder | | | | |
| PBTMA2205 | Bladder cancer tissue array, with paired normal tissue | 24 | Each | \$160.20 |
| PBTMA2207 | Bladder cancer tissue array/various grades and stages | 66 | Each | 192.50 |
| Brain | | | | |
| PBTMA1901 | Nervous system tumour tissue array | 96 | Each | 192.50 |
| PBTMA1902 | Nervous system glioma tissue array | 48 | Each | 192.50 |
| Breast | | | | |
| PBTMA1001 | Breast cancer tissue array, 18 cases from normal to malignant | 18 | Each | 86.20 |
| PBTMA1002 | Breast cancer tissue array with paired normal tissue | 48 | Each | 160.20 |
| PBTMA1003 | Breast cancer tissue array | 49 | Each | 110.90 |
| PBTMA1004 | Breast cancer tissue array | 71 | Each | 110.90 |
| Cervix/Uterus | | | | |
| PBTMA2221 | Cervical cancer tissue array | 150 | Each | 192.50 |
| PBTMA2218 | Cervical cancer with paired normal tissue | 24 | Each | 160.20 |
| PBTMA2214 | Endometrial cancer tissue array with paired normal tissue | 24 | Each | 160.20 |
| Colon | | | | |
| PBTMA1416 | Colon cancer tissue array | 150 | Each | 192.50 |
| PBTMA1412 | Colon cancer tissue array, with paired normal tissue | 48 | Each | 135.50 |
| Esophagus | | | | |
| PBTMA1401 | Esophagus cancer tissue array with paired normal tissue | 24 | Each | 135.50 |
| PBTMA1405 | Esophagus cancer, tissue array | 75 | Each | 192.50 |
| Kidney | | | | |
| PBTMA2201 | Kidney cancer tissue array, with paired normal tissue | 24 | Each | 135.50 |
| PBTMA2204 | Kidney cancer tissue array | 150 | Each | 192.50 |

| Product Number | Description | Cores | Pkg Size | Price |
|-----------------|--|-------|----------|----------|
| Liver | | | | |
| PBTMA1426 | Liver cancer tissue array with paired normal tissue | 48 | Each | \$135.50 |
| PBTMA1429 | Liver cancer tissue array | 150 | Each | 192.50 |
| Lung | | | | |
| PBTMA1101 | Lung cancer tissue array with paired normal tissue | 48 | Each | 192.50 |
| PBTMA1106 | Lung cancer tissue array | 150 | Each | 160.20 |
| Lymphoma | | | | |
| PBTMA1701 | Lymphoma tissue array | 18 | Each | 135.50 |
| Ovary | | | | |
| PBTMA2210 | Ovarian cancer tissue array, with paired normal tissue | 24 | Each | 135.50 |
| PBTMA2213 | Ovarian cancer tissue array of 150 samples | 150 | Each | 192.50 |
| Pancreas | | | | |
| PBTMA1421 | Pancreatic cancer tissue array | 48 | Each | 192.50 |
| Prostate | | | | |
| PBTMA2208 | Prostate cancer tissue array | 48 | Each | 192.50 |
| Rectum | | | | |
| PBTMA1422 | Rectum cancer tissue array | 150 | Each | 192.50 |
| Skin | | | | |
| PBTMA2001 | Skin tumour tissue array, with progressive changes | 96 | Each | 192.50 |
| Stomach | | | | |
| PBTMA1406 | Stomach cancer tissue array with paired normal tissues | 48 | Each | 135.50 |
| PBTMA1409 | Stomach cancer tissue array | 150 | Each | 192.50 |
| Testis | | | | |
| PBTMA2209 | Testis tumour tissue array | 48 | Each | 192.50 |

This is a partial listing. Please contact Mike in our Technical Support Department for more details.

G-BIOSCIENCES PROTEIN ASSAY SELECTION GUIDE



G-Biosciences offers protein assays and accessories for a wide variety of applications. They offer colourimetric protein assays, single tube assays, as well as test strip based assays for rapid analysis. These assays are suitable for even the most demanding research applications.

| Product Number | Description* | Features | Sample Volume | Linear Response Range | Assay Time (~minutes) | Pkg Size | Page |
|----------------|--|---|---------------|-----------------------|-----------------------|---------------------|------|
| GB786005 | NI™ (Non-Interfering) | Overcomes interference of agents commonly present in protein solutions - Colourimetric | 1-50 µL | 0.5-50 µg | 30 | 500 Assays | 100 |
| GB78620 | dotMETRIC™ | 1 µL protein assay for rapid estimation of small sample volumes using test strips - No protein-to-protein variation - Resistant to detergents, reducing agents and other laboratory agents | 1 µL | 25 ng - 1 µg | 10 | > 300 Assays | 101 |
| GB78621 | dotMETRIC™ with Spot Application Device | 1 µL protein assay for rapid estimation of small sample volumes using test strips - Same as dotMETRIC™ GB78621 with the addition of the dotMETRIC™ Spot Application Device | 1 µL | 25 ng - 1 µg | 10 | > 300 Assays | 101 |
| GB78612 | CB™ | Coomassie dye protein assay, based on the Bradford Assay - Suitable for tube or microplate assays - Ready to use assay reagents | 5-100 µL | 0.5-50 µg | 30 | 500 Assays | 101 |
| GB78612X | CB-X™ | Single tube assay - Rapid precipitation and colour development - No requirement for a calibration plot | 5-100 µL | 0.5-50 µg | 10 | 500 Assays | 101 |
| GB786020 | SPN™ | Spin format protein assay for single sample - Unaffected by non-protein chemicals and agents - No toxic agents used - laboratory and environmentally safe | 1-10 µL | 0.5-10 µg | 10 | 50 Assays | 101 |
| GB786021 | SPN™-htp | Spin format protein assay for high throughput screening - Unaffected by non-protein chemicals and agents - No toxic agents used - laboratory and environmentally safe | 1-10 µL | 0.5-10 µg | 10 | 5 x 96 assay plates | 101 |

* All kits include necessary reagents and protein standard BSA (2mg/mL), 5 mL

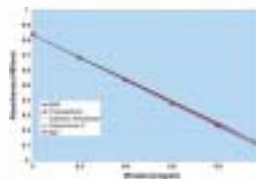
G-BIOSCIENCES NI™ NON-INTERFERING PROTEIN ASSAY™

An assay that overcomes interference of common laboratory agents

- Uses a proprietary Universal Protein Precipitating Agent UPPA™ for removing interfering agents from protein solutions
- Assay is independent of the protein side chains minimizing protein-to-protein variation
- Colour density is inversely proportional to the amount of protein

Applications

- Suitable for protein samples containing common laboratory agents, such as reducing agents (β-mercaptoethanol, dithiothreitol), chelating agents (EDTA), detergents, amines (Tris), sugars and many other agents
- Suitable for samples containing chaotropic agents such as urea, thiourea, guanidine hydrochloride, guanidine thiocyanate, ammonium sulfate, drugs, antibiotics, cobalt, and numerous other agents and extraction buffers
- Suitable for determination of protein concentration in cellular fractions, tissue & cell lysates and chromatography purification fractions
- Suitable for dilute protein solutions



NI™ Protein Assay shows minimal protein-to-protein variation. BSA, thyroglobulin, carbonic anhydrase, Cytochrome C and bovine immunoglobulin G were assayed for protein-to-protein variation. The proteins produced identical color and slope in the range of 0.5µg-50µg, giving an average ratio of 1.01.

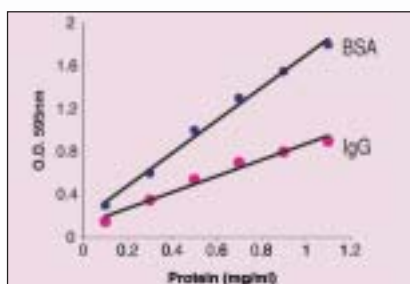
| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB786005 | NI™ Non-Interfering Protein Assay™ Kit <i>Sufficient for 500 Assays</i> Includes: UPPA™-I, 250 mL UPPA™-II, 250 mL Copper Solution - Reagent I, 50 mL Color Agent A, 500 mL Color Agent B, 5 mL Protein Standard, BSA (2 mg/mL), 5 mL | Kit | \$232.80 |

G-BIOSCIENCES CB™ PROTEIN ASSAY

A Coomassie® Dye Based Protein Assay

An improved Coomassie® Dye based protein assay for the simple and rapid estimation of protein concentration. CB™ Protein Assay is supplied with a simple to follow protocol. Ready to use reagent that does not require pre-filtering or dilution. Simply mix the protein solution with CB™ Protein Dye and read the optical density. The protein-dye complexes reach a stable end point in 5 minutes.

- Sensitivity: Linear responses over the range of 0.5 µg - 50µg protein
- Flexible Protocols - Suitable for tube or Titer plate assays
- Ready-to-use assay reagents and no preparation required
- Fast colour development



Concentration of a selection of reagents suitable for CB™ Protein Assay

| | | |
|------------------------|------------------------|------------------------|
| Acids, 1mM | Brij-35, 0.06% | Guanidine-CHI, 6M |
| Ammonium Sulfate, 1.0M | CHAPS, 0.5% | Glycerol, 10% |
| Ampholytes, 0.5% | CHAPSO, 0.5% | DMSO, 10% |
| Barbital | NP-40, 0.5% | Phenol, 5% |
| Boric Acid, 1mM | SDS, 0.015% | Methanol, 10% |
| Citrate, 0.05% | Triton-X100, 0.06 | Ethanol, 10% |
| Deoxycholate, 0.1% | Tween-20, 0.03% | Ascorbic Acid, 50mM |
| DTT, 1M | HEPES, 0.1M | Glucose, 1M |
| Cysteine, 10mM | MES, 0.7M | Urea, 3M |
| 2-Mercaptoethanol, 1M | Sodium Azide, 0.5% | Sucrose, 25% |
| DNA, 1mg/mL | Sodium Chloride, 6m | Sodium Hydroxide, 0.1M |
| EDTA, 0.1M | Sodium Phosphate, 0.1M | Glycine, 0.1M |
| EGTA, 0.05M | Tris, 2M | tRNA, 0.35mg |

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| GB786012 | CB™ Protein Assay Kit <i>Sufficient for 500 Assays</i> Includes: CB™ Protein Assay Reagent, 500 mL Bovine Albumin Standard (2 mg/mL), 5 mL | Kit | \$72.70 |

Subscribe to our monthly e-Lynx newsletter...
visit www.biolynx.ca

G-BIOSCIENCES CB-X™ PROTEIN ASSAY

A single tube protein assay with detergent compatibility

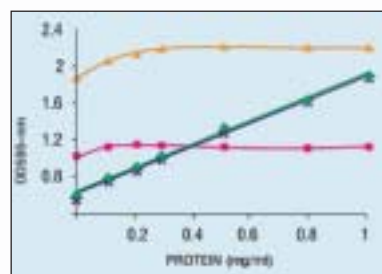
CB-X™ Protein Assay is based on the principle of protein precipitation and coomassie dye stain. It is a rapid, single tube assay that is unaffected by the presence of high concentrations of reducing agents and other interfering agents, including detergents and chaotropes.

CB-X™ saves time and resources. Each lot of CB-X™ is provided with a lot-specific calibration plot that will allow researchers to omit the preparation of their own calibration curve. The CB-X™ table has been prepared using a complex protein mixture whose dose response compares well with proteins derived from animal, plant, bacteria and yeast.

- Sensitivity: Linear responses over the range of 0.5µg - 50µg protein
- Suitable for detergent solubilized membrane proteins
- Ready to use assay reagents and no preparation required
- Fast color development
- Long shelf life, stable for 12 months

Concentration of a selection of reagents suitable for CB-X™ Protein Assay

| | | |
|-----------------|-----------------------|------------------------|
| Brij-35, 2% | Tween-20, 2% | Ammonium Sulfate, 1.0M |
| CHAPS, 2% | HEPES, 1M | Deoxycholate, 0.1% |
| CHAPSO, 2% | MES, 1M | Guanidine-HCl, 6M |
| NP-40, 2% | 2-Mercaptoethanol, 1M | Urea, 3M |
| SDS, 2% | DTT, 1M | Glucose, 1M |
| Triton-X100, 2% | EDTA, 0.1M | Sucrose, 25% |



Protein solutions containing 1% Triton X-100 (yellow plot) and 1% SDS (Red plot) were assayed using a standard Coomassie dye protein assay. The plot shows breakdown of the assay. Protein solution containing the detergents were again assayed with the CB-X™ protein assay (Green plot). The CB-X™ protein assay plot matches the control (e.g., protein solution without a detergent, Black plot).

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB78612X | CB-X™ Protein Assay <i>Sufficient for 500 Assays</i> Includes: CB-X™, 2 x 125 mL CB-X™ Assay Dye, 2 x 250 mL CB-X™ Solubilization Buffer-I, 15 mL CB-X™ Solubilization Buffer-II, 15 mL Bovine Serum Albumin Standard (2 mg/mL), 5 mL CB-X™ Table, Lot Specific, 1 | Kit | \$201.80 |

G-BIOSCIENCES dotMETRIC™ PROTEIN ASSAY

For rapid estimation of protein concentration

The dotMETRIC™ Protein Assay uses a unique combination of proprietary reagents and test strips. No expensive equipment needed. The method involves mixing 1µL of protein sample with a specific Dilution Buffer supplied with each kit. Apply 1µL of the solution to the test strip by point-of-contact capillary action. Under a specific buffer condition as protein enters into the matrix of the test strip it binds and saturates as protein diffuses in circular manner. Develop the test strip in 2-8 minutes. A circular protein spot is produced. The diameter of the spot is proportional to the concentration. By measuring the diameter of the spots with the dotMETRIC™ scale, supplied with each kit, you can easily determine concentration of protein.



| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB78620 | Protein dotMETRIC™ Basic Kit <i>Sufficient for 300 Assays</i> Includes: Fixer-A, 60 mL Developer-B, 60 mL Dilution Buffer, 10 mL Test Strips, 50 dotMETRIC™ Scale, 1 Spot Application Board, 1 Plastic Forceps, 1 1 µL Application Capillaries, 100 | Kit | \$188.50 |
| GB78621 | Basic Kit, with dotMETRIC™ Spot Application Device <i>Sufficient for 300 Assays</i> Includes: Fixer-A, 60 mL Developer-B, 60 mL Dilution Buffer, 10 mL Test Strips, 50 dotMETRIC™ Scale, 1 Spot Application Board, 1 Plastic Forceps, 1 dotMETRIC™ Application Device, 1 | Kit | 353.70 |
| GB78664 | Sample Application Pipet Tips | 96 tips | 21.60 |

* Application Capillaries, Developing Trays and dotMETRIC™ Spot Application Devices are also sold separately. Please contact our Technical Support Department for more information.

G-BIOSCIENCES RED 660™ PROTEIN ASSAY

Single, ready-to-use reagent for rapid analysis of total protein concentration

RED 660™ Protein Assay is a single reagent colorimetric assay that outperforms commercial colorimetric assays. RED 660™ Protein Assay offers greater linearity, greater color stability, and greater compatibility with detergents, reducing agents and other interfering agents compared to the Coomassie assays.

Rapid: Single reagent colourimetric assays

Versatile: RED 660™ Protein Assay is compatible with most detergents

Sensitive: Protein estimation can be performed rapidly using as little as 0.5µg protein

| Product Number | Description | Pkg Size | Price |
|----------------|------------------------|---|----------|
| GB786676 | Red 660™ Protein Assay | 500 Standard Tube Assays / 2,500 Microwell Assays | \$147.80 |

G-BIOSCIENCES SPN™ PROTEIN ASSAY

Measure protein concentration in a gel loading buffer

A fast and efficient spin column protein assay. Simply add the protein sample to the SPN™ spin columns and wash to remove non-protein agents, including detergents and chaotropes. Next add the protein dye and spin to remove free dye. After a second brief wash, elute the protein bound dye with the supplied elution buffer and measure the optical density of the dye. The concentration of protein is determined by comparing the optical density data to the supplied reference data.

- Linear response between 0.5g and 10g
- Manual, semi-automatic or fully automated compatible
- Unaffected by non-protein chemicals and agents
- Rapid assay; protein standards not required
- Small sample requirement
- No toxic agents used, laboratory and environment safe

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786020 | SPN™ Protein Assay <i>Sufficient for 50 Assays</i> Includes: SPN™ Columns, 50 SPN™ Assay Dye, 5 mL SPN™ Wash Buffer-I, 10 mL SPN™ Wash Buffer-II, 50 mL SPN™ Elution Buffer, 50 mL SPN™ Tables I and II, Lot Specific, 2 | Kit | \$214.00 |

* The SPN™ Protein Assay Kit is also available in a 96 well plate format. Please contact our Technical Support Department for more information.

G-BIOSCIENCES PROTEIN ASSAY ACCESSORIES

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| GB786006 | Bovine Serum Albumin Standard, (2 mg/mL) | 2 x 5 mL | \$47.20 |
| GB786007 | Bovine Gamma Globulin Standard, (2 mg/mL) | 2 x 5 mL | 47.20 |
| GB786114 | Pre-diluted BSA Protein Standards, (0.1 mg/mL -1.0 mg/mL) | 6 x 1 mL | 44.50 |
| GB786114G | Pre-diluted γ -Globulin Protein Standards, (0.1 mg/mL -1.0 mg/mL) | 6 x 1 mL | 44.50 |
| GB786008 | Assay Tubes, 2 mL reaction volume | 500 | 78.80 |
| GB786009 | Assay Cuvettes, 1 mL volume | 500 | 88.70 |

ENZO® LIFE SCIENCES ProteoStat™ PROTEIN AGGREGATION ASSAY

Improve your process

- Detects protein aggregates without the requirement for sample separation or dilution
- Provides a convenient complementary orthogonal method for cross-validation of instrumentation-intensive techniques
- Compatible with commonly used buffers (PBS, Tris, HEPES) and excipients (trehalose & sucrose)
- Amenable to high-throughput assessment and optimization of different protein drug formulations
- Useful assay to troubleshoot protein damage during the manufacturing process
- Stringently manufactured, to control and eliminate non-specific assay artifacts Biochemical assays

Enzo Life Sciences' ProteoStat™ Protein aggregation assay provides a simple, homogenous assay format for monitoring peptide and protein aggregation during manufacturing. The assay can be employed to streamline protein processing and optimize formulation procedures. Relative to conventional protein aggregation detection dyes, such as Thioflavin T, the ProteoStat™ detection reagent can detect a broader range of different protein aggregates. The assay yields a much brighter signal, provides at least 2 orders of magnitude linear dynamic range, and offers superior performance across a broad range of pH values (4–10) and buffer compositions. Sensitivity of this assay is in the submicromolar range and as little as 1–5% protein aggregate is detectable in a protein solution. The assay provides a convenient mix and read format and delivers Z'-factor scores greater than 0.5. Therefore, the assay is capable of providing quantitative analysis of protein aggregation in a robust and high-throughput fashion. Lyophilized native and aggregated proteins are provided as negative and positive controls for monitoring changes in protein aggregation status.

| Product Number | Description | Pkg Size | Price |
|----------------|--|--------------|----------|
| ENZ51023KP002 | ProteoStat™ Protein Aggregation Assay Includes: ProteoStat™ Detection Reagent, 22 µL ProteoStat™ Positive Control, 300 µg, Aggregate ProteoStat™ Negative Control, 300 µg, Monomer 10X ProteoStat™ Assay Buffer, 15 mL | 2 x 96 wells | \$523.40 |

ENZO® LIFE SCIENCES ProteoStat™ THERMAL SHIFT STABILITY ASSAY

Conduct high-throughput protein stability screens

Producing proteins and peptides for drugs and research is time consuming and expensive. Care must be taken during production, storage and use of the protein to ensure that it remains stable and active. One of the most common problems involved in the storage of proteins and peptides is the formation of aggregates over time. It is desirable to implement a method that can rapidly screen conditions that may help stabilize a protein and prevent aggregation.

The ProteoStat™ Thermal Shift Stability Assay is a rapid, simple screening method based on a dye that detects protein aggregates. The assay does not require any prior knowledge of protein structure, sequence or ligand binding activity. This dye in the assay is based on a molecular rotor that has very low fluorescence in the absence of aggregated proteins, but fluoresces brightly when bound to the surface of protein aggregates.

- High-throughput thermal shift assay for determining the impact of ligand-protein interactions on target protein stability
- Suitable for accelerated analysis of parameters impacting monoclonal antibody and recombinant protein stability (pH, ionic strength, cryoprotectants, excipients)
- Measures aggregation temperature, providing more flexibility than assays using environment-sensitive dyes to measure unfolding temperature, where detergent and hydrophobic compound interference can be problematic
- Assay is readily performed using a wide range of thermally-controlled fluorescence reading devices (Fluorimeters or real-time PCR instruments)

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| ENZ51027K400 | ProteoStat™ Thermal Shift Stability Assay, 400 Assays Includes: ProteoStat™ TS Detection Reagent (1000X), 25 µL β-Lactoglobulin Control, 16 mg 10X Assay Buffer, 1.2 mL | Kit | \$445.20 |

ENZO® LIFE SCIENCES PROTEIN A EIA KIT

Detect Protein A residuals

The Protein A EIA kit is a colorimetric immunometric enzyme immunoassay kit for the quantitative determination of residual Protein A contamination in Protein A purified IgG preparations from any species. This is a sensitive, accurate, and reproducible sandwich assay to measure natural and recombinant Protein A residuals in antibody-based products.

- Results in < 3 hours
- Absorbance is read at 450 nm
- Ultra-sensitive quantification (< 1 ppm) of Protein A residuals in purified humanized monoclonal antibody preparations
- Kit recognizes four different Protein A constructs

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| ENZ900057 | Protein A EIA, 96 wells Sensitivity: 3.35 pg/mL (range 15.63 - 1,000 pg/mL) | Kit | \$426.40 |

PROTEIN FRACTIONATION AND EXTRACTION

G-BIOSCIENCES FOCUS™ MITOCHONDRIA

Fractionation and enrichment of intact, active mitochondria

Specifically designed for the isolation of intact mitochondria from cultured mammalian cells. This kit allows for the fast and efficient fractionation of the cytoplasm of cultured mammalian cells into an enriched fraction of mitochondria. The majority (>90%) of the mitochondria have intact inner and outer membranes and therefore retain their functionality. This kit is highly adaptable for use with animal tissues and other sources of mitochondria.

| Product Number | Description | Pkg Size* | Price |
|----------------|---|-----------|----------|
| GB786022 | FOCUS™ Mitochondria Kit Includes: SubCell Buffers I, II, IV and V Mitochondria Storage Buffer, 10 mL Mitochondria Storage Component, 1 | 50 Preps | \$278.30 |

* 1 Prep is equivalent to 2 x 10⁷ mammalian cells or 100 mg mammalian tissue

G-BIOSCIENCES FOCUS™ GLOBAL FRACTIONATION

Fractionation and enrichment of cytosolic and membrane signal, peripheral or integral proteins

The FOCUS™ Global Fractionation kit is designed to fractionate complex biological samples into cytosolic and membrane fractions. The resulting membrane fractions are subsequently fractionated into either peripheral and integral membrane proteins or lipid raft associated proteins and detergent soluble membrane proteins.

- Fractionation of complex proteomes into multiple, specific fractions
- Fractionation of membrane proteins from lipid rafts

| Product Number | Description | Pkg Size* | Price |
|----------------|---|-----------|----------|
| GB786018 | FOCUS™ Global Fractionation Includes: Soluble Protein Extraction Buffer, 50mL Membrane Protein Extraction Buffer, 50 mL Membrane Signal Protein Extraction Buffer, 50 mL FOCUS™ Protein Solubilization Buffer, 25g FOCUS™ Extraction Buffer, 30 mL | 50 Preps | \$207.40 |

* 1 prep is: 100mg mammalian tissue; 50µL wet animal cell pellet; 50µL wet yeast pellet; 50µL wet bacteria pellet; 250mg plant tissue.

G-BIOSCIENCES FOCUS™ PhosphoRich™

FOCUS™ PhosphoRich™ is a ready-to-use kit that enriches phosphorylated proteins and phosphopeptides from complex biological samples. The kit contains spin columns that have a phosphoprotein binding resin with a binding capacity of ~20mg phosphorylated ovalbumin per column.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786255 | FOCUS™ PhosphoRich™ Includes: Phospho-Lysis Buffer, 25 mL Phospho-Wash Buffer, 25 mL Phospho-Elution Buffer, 25 mL Phospho-Columns, 5 | 50 Preps | \$408.00 |



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G-BIOSCIENCES FOCUS™ GLYCOPROTEIN

The FOCUS™ Glycoprotein kit is based on lectin binding of specific glycoproteins with terminal α-D mannosyl and α-D glycosyl proteins.

The FOCUS™ Glycoprotein kit isolates glycoproteins from complex biological solutions using spin columns that contain lectin (Concanavalin A) bound resin with the capacity to bind and immobilize ~5mg glycoproteins. Column bound glycoproteins are eluted with a set of three rapid elution buffers. The proprietary serial elution allows for faster elution compared to other glycoprotein purification systems.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786253 | FOCUS™ Glycoprotein Includes: Glyco-Loading Buffer, 50 mL Glyco-Elution Buffer I, 5 mL Glyco-Elution Buffer II, 5 mL Glyco-Elution Buffer III, 5 mL Glyco-Columns, 5 | 50 Preps | \$265.00 |

G-BIOSCIENCES AlbuminOUT™

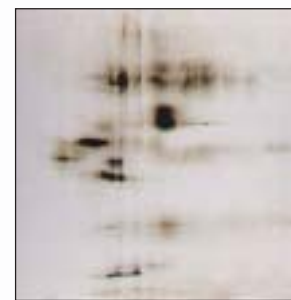
For easy removal of Albumin

AlbuminOUT™ will remove over >98% albumin from 5-50µL human plasma. The spin column format allows removal of albumin within 10 minutes. The high capacity blue-dye binding resin (Capacity, 10-20 mg/mL resin) allows instantaneous binding and removal of albumin from human, pig, sheep, dog, rabbit, rat, and bovine samples.

- Removal of albumin from samples in less than 10 minutes
- Based on binding of albumin with Cibachron™ Blue dye
- Column capacity > 2 mg human albumin per column
- Removes over >98% albumin from 5-50µL human plasma



2D gel of whole human serum showing albumin



2D gel of human serum after removal of albumin with AlbuminOUT™

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB786251 | AlbuminOUT™ Sufficient for 25 preps Includes: Albumin Binding Buffer, 25 mL Albumin Elution Buffer, 6 mL AlbuminOUT™ Spin Column, 25 2 mL Collection Tubes, 50 | Kit | \$224.00 |
| GB786252 | AlbuminOUT™ Sufficient for 50 preps Includes: Albumin Binding Buffer, 2 x 25 mL Albumin Elution Buffer, 2 x 6 mL AlbuminOUT™ Spin Column, 50 2 mL Collection Tubes, 100 | Kit | 408.00 |

PROTEIN FRACTIONATION AND ENRICHMENT

G-BIOSCIENCES PROTEIN FRACTIONATION AND ENRICHMENT KITS

G-Biosciences offers a wide selection of fractionation kits for processing samples from cells, tissues, bacteria, yeast, plants and other types of samples. The FOCUS™ line of products allow for the fractionation of biological samples into a multitude of different fractions. These resulting fractions are compatible with 2D electrophoresis and subsequent protein identification techniques.

G-BIOSCIENCES FOCUS™ SOLUBLE AND INSOLUBLE

A complete kit for the selective preparation of soluble (hydrophilic) and insoluble (hydrophobic) proteins from mammalian tissues and cells, plants, yeast, bacteria, and other biological samples. The kit comes with reagents necessary for fractionation of soluble and insoluble fractions, including a strong chaotropic extraction buffer to solubilize difficult proteins.

The FOCUS™ Soluble & Insoluble kit is supplied with a specific clean-up kit for the preparation of each fraction for isoelectric focusing and 2D electrophoresis for improved spot resolution.

| Product Number | Description | Pkg Size* | Price |
|----------------|---|-----------|----------|
| GB786247 | FOCUS™ Soluble and Insoluble Includes: Soluble Protein Extraction Buffer, 50 mL FOCUS™ Protein Solubilization Buffer, 25 g FOCUS™ Extraction Buffer, 30 mL Perfect-FOCUS™ Sample Preparation Kit, 1 | 50 Preps | \$321.60 |

* 1 prep is: 100mg mammalian tissue; 50µL wet animal cell pellet; 50µL wet yeast pellet; 50µL wet bacteria pellet; 250mg plant tissue.

G-BIOSCIENCES FOCUS™ SIGNAL PROTEINS

Fractionation of signal proteins enriched in lipid rafts

Lipid rafts are membrane microdomains that are enriched in caveolin, cholesterol, glycolipids, sphingolipids and glycosyl-phosphatidylinositol. FOCUS™ Signal Proteins kit fractionates lipid raft localized proteins from other cellular proteins by employing non ionic detergents. Signal Protein Extraction Buffer is a proprietary formulation of non-ionic detergents designed to efficiently extract and remove soluble proteins, leaving lipid rafts containing signal proteins as a detergent insoluble fraction. The resulting rafts are then solubilized in FOCUS™ Protein Solubilization Buffer, a supplied 2D electrophoresis compatible buffer or a different buffer of choice.

| Product Number | Description | Pkg Size* | Price |
|----------------|--|-----------|----------|
| GB786250 | FOCUS™ Signal Proteins Includes: FOCUS™ Signal Protein Extraction Buffer I, 50 mL FOCUS™ Signal Protein Extraction Buffer II, 50 mL FOCUS™ Protein Solubilization Buffer, 25 g FOCUS™ Extraction Buffer, 30 mL | 50 Preps | \$179.60 |

* 1 prep is: 100mg mammalian tissue; 50µL wet animal cell pellet; 50µL wet yeast pellet; 50µL wet bacteria pellet; 250mg plant tissue.



G-BIOSCIENCES FOCUS™ - CYTOPLASMIC AND NUCLEAR PROTEINS

Fractionation and enrichment of cytoplasmic and nuclear proteins

A simple method for fractionation of cytoplasmic and nuclear proteins from cells and tissues. The fractionation method is based on gentle lysis of sample followed by centrifugation to collect and separate nuclei from the rest of cytoplasmic proteins. For proteomic as well as expression and transport studies.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786248 | FOCUS™ - Cytoplasmic and Nuclear Proteins Includes: SubCell Buffer-I, 50mL SubCell Buffer-II [3X], 25mL SubCell Buffer-III, 25mL SubCell Buffer-IV, 20mL FOCUS™ Protein Solubilization Buffer, 25g DILUENT- III, 30mL Perfect-FOCUS™, 1 kit | 50 Preps | \$321.60 |

G-BIOSCIENCES FOCUS™ - MEMBRANE PROTEINS

Fast and efficient fractionations of membrane proteins

For fractionation of highly enriched membrane proteins using a single step phase partition. Membrane proteins are extracted with an efficiency greater than 90% with minimal cross-contamination (<10%) from hydrophilic proteins.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB786249 | FOCUS™ Membrane Proteins Includes: Membrane Protein Extraction Buffer-I, 50mL Membrane Protein Extraction Buffer-II, 50mL FOCUS™ Protein Solubilization Buffer, 50mL FOCUS™ Extraction Buffer, 30 mL Perfect-FOCUS™, 1 kit | 50 Preps | \$321.60 |

G-BIOSCIENCES FOCUS™ SubCell

Total subcellular fractionation of cells and tissues

The FOCUS™ SubCell Kit is designed for the total subcellular fractionation of cells and mammalian tissue into enriched fractions of nuclear, mitochondrial, cytosolic and membrane proteins.

The resulting mitochondrial fraction can be subsequently separated into heavy and light fractions by gradient centrifugation. The resulting mitochondria are >90% active and have intact inner and outer membranes.

- Fractionate into nuclear, mitochondrial, cytosolic and membrane proteins
- Adaptable for animal tissue

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786260 | FOCUS™ SubCell Includes: SubCell Buffers I to V Mitochondria Storage Buffer, 10 mL Mitochondria Storage Component, 1 | 50 preps | \$312.70 |



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PROTEIN EXTRACTION REAGENTS

G-BIOSCIENCES FOCUS™ PROTEOME KITS

Protein isolation for biochemical applications

FOCUS™ Proteome Kits are used for the preparation of total protein, including soluble, insoluble, membrane, cytoplasmic, nuclear, signal, phospho- and glyco- proteins.

- Simple to use and improve the quality of protein analysis
- Suitable for the analysis of proteins using electrophoresis and other biochemical techniques

G-BIOSCIENCES FOCUS™ MAMMALIAN PROTEOME

The FOCUS™ Mammalian Proteome Kit extracts and solubilizes total proteins from mammalian tissues and cells by using a chaotropic buffer to solubilize even the most difficult proteins. This product is suitable for biological samples from animal tissues as well as adherent and suspension cells.

- Single step extraction protocol
- For 50 x 100 mg of animal tissue or 50 µL of wet cell pellet preparation

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB786246 | FOCUS™ Mammalian Proteome Includes: FOCUS™ Protein Solubilization Buffer (FPS Buffer), 25g FOCUS™ Extraction Buffer, 30 mL | 50 Preps | \$151.50 |

G-BIOSCIENCES FOCUS™ CYTOPLASMIC AND NUCLEAR PROTEINS

FOCUS™ Cytoplasmic and Nuclear proteins fractionation kit is based on the Nuclear and Cytoplasmic Extraction Kit, however it has been modified to be fully compatible with 2D electrophoresis and subsequent downstream processes.

- Includes chaotropic extraction buffer for solubilization of nuclear and cytoplasmic proteins
- This kit is designed for >50 preps, depending on the tissue used, where one prep is 20 x 10⁶ mammalian cells or 100mg mammalian tissue

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786248 | FOCUS™ Cytoplasmic and Nuclear Proteins | 50 Preps | \$321.10 |

G-BIOSCIENCES FOCUS™ - BACTERIAL PROTEOME

Maximize bacterial protein extraction

The FOCUS™ Bacterial Proteome Kit is specifically designed for bacterial research and is supplied with bacterial specific reagents. It extracts and solubilizes nearly all of the proteins from E. coli, including membrane as well as soluble proteins. Extraction is based on gentle lysis of bacterial cells with longlife™-Lysozyme enzyme preparation specifically prepared and stabilized for long term use, followed by extraction of total proteome.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786258 | FOCUS™ Bacterial Proteome Includes: FOCUS™ Protein Solubilization Buffer [FPS Buffer], 25 g DILUENT- III, 30 mL Bacterial Suspension Buffer, 25 mL Longlife™ Lysozyme (1,500 units/µL), 1.0mL | 50 Preps | \$263.90 |

G-BIOSCIENCES FOCUS™ - YEAST PROTEOME

Preparation of yeast proteome for analysis

The FOCUS™ - Yeast Proteome Kit has been specifically designed for yeast research and supplied with yeast specific reagents. Extracts and solubilizes nearly all of the proteins from yeast, including membrane as well as soluble proteins. Extraction is based on the gentle lysis of yeast cells with a yeast lysis enzyme preparation (Longlife™ Zymolyase) specifically prepared and stabilized for long term use. This is followed by extraction of total proteome.

- Simple extraction protocol
- Supplied with a yeast specific lytic enzyme preparation
- Supplied with a strong proprietary chaotropic extraction buffer
- Extraction of total proteins from yeast cells
- Suitable for sample preparation for 2D gel electrophoresis and other applications

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB786257 | FOCUS™ - Yeast Proteome Includes: FOCUS™ Protein Solubilization Buffer [FPS Buffer], 25 g DILUENT- III, 30 mL Yeast Suspension Buffer, 15 mL Longlife™ Zymolyase (1500 units/mL), 2 x 0.5 mL | 50 Preps | \$270.50 |

G-BIOSCIENCES FOCUS™ INSECT PROTEOME

FOCUS™ Insect Proteome extracts and solubilizes nearly all of the proteins from insect cell cultures (i.e. Sf9 and Sf21), including membrane as well as soluble proteins, using a strong chaotropic extraction buffer to solubilize even the most difficult proteins.

- For the extraction of protein from 50 x 50 µL insect cell pellets
- Single step extraction protocol

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786360 | FOCUS™ Insect Proteome Includes: FOCUS™ Protein Solubilization Buffer (FPS Buffer), 25g FOCUS™ Extraction Buffer, 30 mL | 50 Preps | \$205.10 |

G-BIOSCIENCES FOCUS™ PLANT PROTEOME

FOCUS™ Plant Proteome is specifically designed for plant research and supplied with plant specific reagents, including reagents for removal of plant pigments and other natural products that may interfere with protein analysis.

- Simple extraction protocol
- Extracts and solubilizes membrane and soluble proteins
- Extracts plant proteome from 25 x 0.5 g plant tissue preparations

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB786259 | FOCUS™ Plant Proteome Includes: FOCUS™ Protein Solubilization Buffer (FPS Buffer), 25g FOCUS™ Extraction Buffer, 30 mL Perfect-FOCUS™ Sample Preparation Kit, 1 | 25 Preps | \$312.70 |

PROTEIN AND ANTIBODY PURIFICATION

MACHEREY-NAGEL PROTINO® Ni-TED/IDA

For easy purification of His tagged proteins

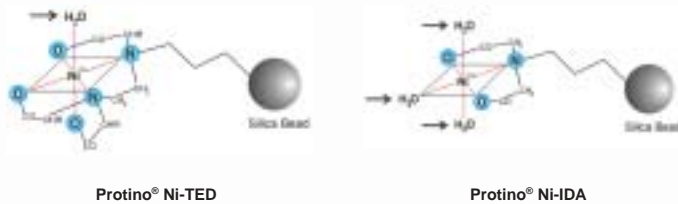
Macherey-Nagel Protino® Ni-TED and Ni-IDA products enable fast and convenient purification of recombinant polyhistidine-tagged proteins by immobilized metal ion affinity chromatography (IMAC). Protino® Ni-IDA and Ni-TED are dry silica-based resins precharged with Ni²⁺ ions.

PROTINO® Ni-IDA

IDA (iminodiacetic acid) is a three dentate chelator which occupies three of the six binding sites in the coordination sphere of the Ni²⁺ ion. The remaining three coordination sites are usually occupied by water molecules and can be exchanged with histidine residues of the recombinant protein. Ni-IDA ensures strong and efficient binding of the target protein. Binding Capacity: 20 mg/g resin.

PROTINO® Ni-TED

Ligand TED is a strong pentadentate metal chelator of Ni²⁺ which minimizes metal leaching during purification. The single protein binding site with Ni²⁺ increases specificity of polyhistidine-tagged proteins providing excellent purity. Binding Capacity: 10 mg/g resin.



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| MCN74510010 | Protino® Ni-TED 150, 10 Preps Protein Binding Capacity 400 µg* Includes: Packed Columns Buffers | Kit | \$57.70 |
| MCN7451105 | Protino® Ni-TED 1000, 5 Preps Protein Binding Capacity 2.5 mg* Includes: Packed Columns Buffers | Kit | 45.00 |
| MCN7451205 | Protino® Ni-TED 2000, 5 Preps Protein Binding Capacity 5 mg* Includes: Packed Columns BufferLEW Elution Buffer | Kit | 57.70 |
| MCN7452005 | Protino® Ni-TED Resin | 5 g | 64.80 |
| MCN74520030 | Protino® Ni-TED Resin | 30 g | 224.20 |
| MCN74515010 | Protino® Ni-IDA 150, 10 Preps Protein Binding Capacity 800 µg* Includes: Packed Columns Buffers | Kit | 57.70 |
| MCN7451605 | Protino® Ni-IDA 1000, 5 Preps Protein Binding Capacity 5 mg* Includes: Packed Columns Buffers | Kit | 45.00 |
| MCN7451705 | Protino® Ni-IDA 2000, 5 Preps Protein Binding Capacity 10 mg* Includes: Packed Columns Buffers | Kit | 57.70 |
| MCN7452105 | Protino® Ni-IDA Resin | 5 g | 64.80 |
| MCN74521030 | Protino® Ni-IDA Resin | 30 g | 224.20 |

* Refers to 6xHis-GFPuv (32 kDa)

** Also available in different package sizes and formats. Please contact our Technical Support Department for more information.

G-BIOSCIENCES CARRIER PROTEINS

Widely used immunological grade carrier proteins in single use quantities and aliquots

G-Biosciences offers Bovine Serum Albumin (BSA; 67 kDa) and Key-hole Limpet Hemocyanin (KLH; 450-13,000 kDa) in single-use OneQuant™ format as well as in the single tube format.

HyperCarrier™ is normal BSA that has been treated with ethylene diamine, which substitutes anionic carboxyl groups with cationic aminoethyl-amide groups. This cationized form stimulates a higher immunogenic response, compared to normal BSA, and allows for a greater concentration of coupled peptides.

ActiveHOOK™ Carrier Proteins have been preactivated with the heterobifunctional protein cross linker sulfoSMCC and therefore are ready for the addition of a cysteine containing peptide. A simple one step reaction.



| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------------------|----------|---------|
| GB786090 | OneQuant™ BSA | 8 x 2 mg | \$60.70 |
| GB786091 | OneQuant™ KLH | 8 x 2 mg | 147.80 |
| GB786092 | OneQuant™ HyperCarrier™ | 8 x 2 mg | 281.60 |
| GB786093 | OneQuant™ ActiveHOOK™ BSA | 8 x 2 mg | 162.60 |
| GB786094 | OneQuant™ ActiveHOOK™ KLH | 8 x 2 mg | 396.00 |
| GB786095 | OneQuant™ ActiveHOOK™ HyperCarrier™ | 8 x 2 mg | 401.50 |
| GB786086 | BSA | 10 mg | 35.10 |
| GB786087 | ActiveHOOK™ BSA | 10 mg | 117.00 |
| GB786088 | KLH | 10 mg | 117.00 |
| GB786089 | ActiveHOOK™ KLH | 10 mg | 263.90 |
| GB786096 | HyperCarrier™ | 10 mg | 208.40 |
| GB786097 | ActiveHOOK™ HyperCarrier™ | 10 mg | 320.40 |

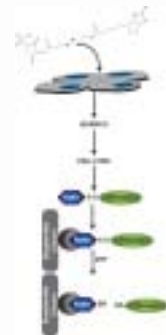
G-BIOSCIENCES HOOK™ CELL SURFACE PROTEIN ISOLATION

For the biotin labeling and subsequent isolation of cell surface proteins

The kit is compatible with a wide variety of mammalian cells and can be used to compare treated vs. untreated cells as well as differences between cell lines

Applications include:

- Cell surface protein isolation
- Receptor:ligand interaction studies
- Membrane trafficking studies



| Product Number | Description | Pkg Size* | Price |
|----------------|---|-----------|----------|
| GB786316 | HOOK™ Cell Surface Protein Isolation Kit Includes: HOOK™ Sulfo-NHS-SS-Biotin Streptavidin-Agarose Columns with stoppers Collection Tubes, Mammalian Cell PE LB™ HOOK™ Quench Buffer Jaw™ Phosphate Buffered Saline and OneQuant™ DTT | 5 rxns | \$222.80 |

* Supplied with sufficient reagents for 5 reactions with each reaction consisting of four 90-95% confluent T-75cm² flasks

G-BIOSCIENCES AFFINITY CHROMATOGRAPHY RESINS

For the separation and purification of proteins

The Streptavidin Resin is designed for the single step affinity purification of proteins and antibodies with a biotin tag. The advantage of streptavidin is that the lack of carbohydrates significantly reduces the amount of non-specific binding.

The resin consists of streptavidin coupled to ~4% cross-linked agarose, via a 15 carbon spacer arm. It has a binding capacity >100nmoles/mL resin.

Glutathione Resin for GST

GST-tagged proteins are purified by their reversible association to immobilized glutathione and are eluted with the competitive ligand, reduced glutathione.

The resin consists of reduced glutathione (GSH) covalently coupled to 4% cross-linked agarose, via a 10-carbon spacer arm. The resin has a binding capacity of ~8mg GST/mL drained resin.

Nickel Chelating Resin for 6XHis

His-tagged proteins contain six consecutive histidines and affinity chromatography utilizes the fact that histidines bind chelated transition metal ions. The purification of His-tagged proteins is carried out by immobilized metal affinity chromatography (IMAC) with nickel being the preferred metal ion. Elutions of tag proteins is achieved with imidazole.

The resin consists of imminodiacetate coupled to 6% cross-linked agarose beads. The imminodiacetate binds divalent nickel ion with a capacity of 20-40 moles Ni²⁺/mL resin.

Calmodulin Resin for CBP

Calmodulin binding peptide tagged proteins can be rapidly and efficiently purified with our calmodulin resin. A major benefit is that protein elution only requires 2 mM EGTA at neutral pH; extremely gentle conditions to help maintain the proteins activity and structure.

The resin consists of 4% agarose coupled to calmodulin and has a density of approximately 1mg calmodulin/mL resin.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786555 | Streptavidin Resin Kit Includes: Resin, 5 mL Binding/Wash Buffer, 100 mL Elution Buffer, 100 mL Micro Spin Columns, 5 Medi Spin Columns, 5 | Kit | \$410.20 |
| GB786390 | Streptavidin Resin | 5 mL | 321.60 |
| GB786550 | Glutathione Resin Kit Includes: Resin, 5 mL Binding/Wash Buffer, 100 mL Elution Buffer, 100 mL Micro Spin Columns, 5 Medi Spin Columns, 5 | Kit | 298.30 |
| GB786280 | Glutathione Resin | 10 mL | 222.80 |
| GB786551 | Nickel Chelating Resin Kit Includes: Resin, 5 mL Binding/Wash Buffer, 100 mL Elution Buffer, 100 mL Micro Spin Columns, 5 Medi Spin Columns, 5 | Kit | 465.70 |
| GB786281 | Nickel Chelating Resin | 12.5 mL | 275.00 |
| GB786552 | Calmodulin Resin Kit Includes: Resin, 5 mL Binding/Wash Buffer, 100 mL Elution Buffer, 100 mL Micro Spin Columns, 5 Medi Spin Columns, 5 | Kit | 443.90 |
| GB786282 | Calmodulin Resin | 10 mL | 366.70 |

MACHEREY-NAGEL Protino® GLUTATHIONE AGAROSE 4B

Purification of GST-tagged proteins

Protino® Glutathione Agarose 4B enables fast and convenient purification of recombinant Glutathione-S-Transferase (GST)-tagged proteins from whole cell extracts by affinity chromatography.



Binding of protein is based on the selective interaction between the Glutathione-S-Transferase tag of the recombinant protein and the immobilized glutathione of the affinity resin. The binding process is highly specific and selective. Thus, only one chromatographic step leads to a high degree of purification.

- High Flexibility — for batch, gravity flow and FPLC
- Universal Use — Suitable for small proteins, large protein complexes, proteins with low expression rates
- A cost effective alternative for GST-tag purification

| Product Number | Description | Pkg Size* | Price |
|----------------|---------------------------------|-----------|----------|
| MCN74550010 | Protino® Glutathione Agarose 4B | 10 mL | \$201.00 |
| MCN745500100 | Protino® Glutathione Agarose 4B | 100 mL | 1,479.70 |

MACHEREY-NAGEL NucleoSpin® RNA/PROTEIN

Total RNA and protein from one lysate

The NucleoSpin® RNA/Protein Kit enables isolation of RNA and protein from diverse sample types. Protein and RNA are isolated without splitting the sample prior to extraction. Thus, protein and RNA are obtained from one and the same sample and not from two similar portions of one sample.

- RNA and Protein from one lysate
- Simple and fast procedure — no phenol, no chloroform, no acetone
- High quality RNA — RNA is suitable for all common downstream applications e.g. RT-PCR, blotting, or microarray
- Parallel DNA purification possible — kits can be combined with the optional NucleoSpin® RNA/DNA buffer set

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------------------------|----------|---------|
| MCN74093310 | NucleoSpin® RNA/Protein Kit, 10 Preps | Kit | \$77.30 |
| MCN74093350 | NucleoSpin® RNA/Protein Kit, 50 Preps | Kit | 306.30 |

G-BIOSCIENCES DISPOSABLE COLUMNS

Affordable, disposable columns available in three convenient sizes

- Resealable columns for use with affinity resins
- Columns are supplied with caps to seal both column ends



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| GB786169 | Empty Disposable Columns with caps, Medi (1-5 mL) | 25 | \$96.10 |
| GB786197 | Empty Disposable Columns with caps, Maxi (2-20 mL) | 25 | 102.30 |
| GB786198 | Empty Disposable Columns with caps, Micro (<1 mL) | 10 | 43.20 |

G-BIOSCIENCES HOOK™ AGAROSE COUPLING KITS

For the coupling of peptides and proteins to agarose beads

An important tool in research is the generation of peptide and protein affinity columns for the purification of antibodies and for the discovery of important interacting proteins and cofactors. G-Biosciences offers two kits for the coupling of peptides and proteins to agarose through their primary amines or sulfhydryl residues. These kits generate stable bonds resulting in columns that can be used several times.

HOOK™ Agarose Coupling Kit (Amine Reactive)

The amine reactive HOOK™ Agarose Coupling Kit is designed for the simple and efficient coupling of proteins and peptides to a solid support. The kit allows the generation of both a stable and reusable column for the affinity purification of antibodies, proteins and other protein interacting biomolecules. This kit utilizes 6% agarose that has been activated to generate reactive aldehyde groups. The aldehyde groups of the agarose react spontaneously with primary amines, located at the N-terminus of proteins or in lysine residues, to form intermediate Schiff Base complexes. These, in turn, are selectively reduced by reductive amination to form stable amine linkages between the agarose and the ligand.

HOOK™ Agarose Coupling Kit (Sulfhydryl Reactive)

The sulfhydryl reactive HOOK™ Agarose Coupling kit utilizes 6% agarose that has been activated to generate reactive aminoethyl groups. The kit utilizes the heterobifunctional chemical crosslinker sulfoSMCC (Sulfosuccinimidyl 4-(N-maleimidomethyl)cyclohexane-1-carboxylate) to couple peptide sulfhydryl groups, found on cysteine side chains, to the aminoethyl on the agarose. sulfoSMCC is a heterobifunctional crosslinker that conjugates between sulfhydryl and primary amine residues. The N-hydroxysuccinimide (NHS) ester in sulfoSMCC reacts with primary amines to form covalent amide bonds and the maleimide group reacts with sulfhydryl groups to form stable thioether bonds. The resulting bonds are stable, allowing the columns to be reused.

- Coupling of proteins and peptides to agarose beads
- Suitable for antibody purification
- Discovery of new interacting proteins

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786063 | HOOK™ Agarose Coupling Kit (Amine Reactive) Includes: 5X Optimizer Buffer™ VI, 2 x 25 mL Sodium Cyanoborohydride (NaCNBH3), 1 vial HOOK™ Activated Agarose, 20 mL Empty Columns, 5 Quenching Buffer, 25 mL | Kit | \$327.50 |
| GB786064 | HOOK™ Agarose Coupling Kit (Sulfhydryl Reactive) Includes: 5X Optimizer Buffer™ VI, 2 x 25 mL OneQuant™ sulfoSMCC, 1 vial HOOK™ Activated Agarose, 20 mL Empty Columns, 5 Blocking Reagent, 25 mL | Kit | 401.50 |
| GB786065 | HOOK™ Activated Agarose (Sulfhydryl Reactive) | 10mL | 93.60 |
| GB786066 | HOOK™ Activated Agarose (Amine Reactive) | 10mL | 139.20 |

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G-BIOSCIENCES HOOK™ PEPTIDE COUPLING KITS

Coupling peptides to carrier proteins has never been easier

The HOOK™ Sulfhydryl Reactive Peptide Coupling Kit is designed for the coupling of peptides to carrier proteins, utilizing a sulfhydryl group in the peptide. This kit exploits the chemical crosslinker sulfoSMCC (Sulfosuccinimidyl 4-(N-maleimidomethyl)cyclohexane-1-carboxylate) to couple peptides through their sulfhydryl groups, found on cysteine side chains, to the primary amines on the carrier proteins. The N-hydroxysuccinimide (NHS) ester in sulfoSMCC reacts with primary amines to form covalent amide bonds and the maleimide group reacts with sulfhydryl groups to form stable thioether bonds. If peptides do not contain a sulfhydryl group then G-Biosciences recommends and supplies Trauts reagent (2-IminothiolaneHCl). Trauts reagent modifies primary amines, located at the N-terminus and on lysine side chains, introducing a sulfhydryl group that is fully compatible with this kit.

The HOOK™ Amine Reactive Peptide Coupling Kit is designed for the coupling of peptides to carrier proteins, utilizing the primary amines and carboxyl groups of the peptides and carrier proteins. This kit utilizes the chemical heterobifunctional crosslinker EDC (1-Ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride) to couple peptides to carrier proteins. EDC first reacts with the carboxyl groups, producing an amine reactive intermediate, O-acylisourea that rapidly reacts with the amine groups of the peptide/protein.

- Simple to use
- Suitable for all carrier proteins
- Utilizes Tube-O-Reactor™ for minimum hands on time

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786071 | HOOK™ Sulfhydryl Reactive Peptide Coupling Kit Includes: 5X Optimizer Buffer™ III, 25 mL OneQuant™ sulfoSMCC, 5 x 5 mg Tube-O-Reactor™, 1 | Kit | \$341.60 |
| GB786072 | HOOK™ Sulfhydryl Reactive Peptide Coupling Kit (BSA) Includes same components as GB786071 plus: OneQuant™ Bovine serum albumin (BSA), 5 x 2 mg | Kit | 375.40 |
| GB786073 | HOOK™ Sulfhydryl Reactive Peptide Coupling Kit (KLH) Includes same components as GB786071 plus: OneQuant™ Keyhole Limpet Hemocyanin (KLH), 5 x 2 mg | Kit | 443.90 |
| GB786074 | HOOK™ Sulfhydryl Reactive Peptide Coupling Kit (HyperCarrier™) Includes same components as GB786071 plus: OneQuant™ HyperCarrier™, 5 x 2 mg | Kit | 593.00 |
| GB786067 | HOOK™ Amine Reactive Peptide Coupling Kit Includes: 5X Optimizer Buffer™ III, 25 mL EDC (1-Ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride), 50 mg Tube-O-Reactor™, 1 | Kit | 242.80 |
| GB786068 | HOOK™ Amine Reactive Peptide Coupling Kit (BSA) Includes same components as GB786067 plus: OneQuant™ Bovine serum albumin, 5 x 2 mg | Kit | 278.30 |
| GB786069 | HOOK™ Amine Reactive Peptide Coupling Kit (KLH) Includes same components as GB786067 plus: OneQuant™ Keyhole Limpet Hemocyanin, 5 x 2 mg | Kit | 347.00 |
| GB786070 | HOOK™ Amine Reactive Peptide Coupling Kit (HyperCarrier™) Includes same components as GB786067 plus: OneQuant™ HyperCarrier™, 5 x 2 mg | Kit | 498.30 |

WESTERN BLOTTING

G-BIOSCIENCES picoLUCENT™ PLUS

Superior chemiluminescence detection with low background

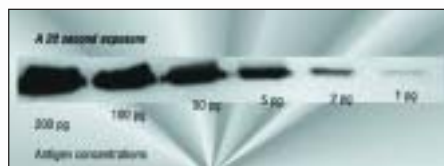
- Based on a sensitive luminol and 1,2 dioxetane substrate that produces chemiluminescence upon reaction with horseradish peroxidase (HRP) or alkaline phosphatase (AP)
- The chemiluminescence light emission can be recorded by a short exposure to autoradiography films
- Allows detection of low picogram levels (10^{-12}) of antigens with low noise (signal/background) ratio
- Suitable for PVDF or nitrocellulose membrane

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------------------|----------|
| GB78609 | picoLUCENT™ PLUS HRP Includes: picoLUCENT Luminol Solution A, 50 mL picoLUCENT Luminol Solution B, 50 mL femto TBST [10X], 250 mL NAP-Blocker [2X], 2 x 250 mL | 1000 cm ² | \$178.60 |
| GB78609R38 | picoLUCENT™ PLUS HRP with Goat anti-Mouse-HRP Antibody Includes same components as GB78609 plus Goat anti-Mouse IgG-HRP, 2 mL | 1000 cm ² | 314.90 |
| GB78609R39 | picoLUCENT™ PLUS HRP with Goat anti-Rabbit-HRP Antibody Includes same components as GB78609 plus Goat anti-Rabbit IgG-HRP, 2 mL | 1000 cm ² | 314.90 |
| GB78609R42 | picoLUCENT™ PLUS HRP with Rabbit anti-Goat-HRP Antibody Includes same components as GB78609 plus Rabbit anti-Goat IgG-HRP, 2 mL | 1000 cm ² | 411.30 |
| GB78609R41 | picoLUCENT™ PLUS HRP with Goat anti-Human-AP Antibody Includes same components as GB78609 plus Goat anti-Human IgG H&L HRP, 2 mL | 1500 cm ² | 403.70 |
| GB78609R48 | picoLUCENT™ PLUS HRP with Rabbit anti-Human-AP Antibody Includes same components as GB78609 plus Rabbit anti-Human IgG HRP, 1.5 mL | 1500 cm ² | 405.80 |
| GB78609AP | picoLUCENT™ PLUS AP Includes: picoLUCENT™ PLUS AP Detection Reagent, 50 mL femtoTBST [10X], 250 mL NAP-Blocker [2X], 2 x 250 mL | 1000 cm ² | 166.30 |
| GB78609APR43 | picoLUCENT™ PLUS AP with Goat anti-Mouse-AP Antibody Includes same components as GB78609AP plus Goat anti-Mouse IgG-AP, 1 mL | 1000 cm ² | 383.00 |
| GB78609APR44 | picoLUCENT™ PLUS AP with Goat anti-Rabbit-AP Antibody Includes same components as GB78609AP plus Goat anti-Rabbit IgG-AP, 1 mL | 1000 cm ² | 383.00 |
| GB78609APR47 | picoLUCENT™ PLUS AP with Rabbit anti-Goat-AP Antibody Includes same components as GB78609AP plus Rabbit anti-Goat IgG-AP, 1 mL | 1000 cm ² | 376.50 |
| GB78609APR46 | picoLUCENT™ PLUS AP with Goat anti-Human-AP Antibody Includes same components as GB78609AP plus Goat anti-Human IgG-AP, 1 mL | 1500 cm ² | 376.50 |
| GB78609APR49 | picoLUCENT™ PLUS AP with Rabbit anti-Human-AP Antibody Includes same components as GB78609AP plus Rabbit anti-Human IgG-AP, 1 mL | 1500 cm ² | 364.50 |

G-BIOSCIENCES femtoLUCENT™ PLUS

An ultra sensitive immunodetection system

- Quick and sensitive non-isotopic detection of proteins on transfer membranes
- Economical — Costs less than any other chemiluminescent system available for up to 5000 cm² membrane per kit
- Longer and more intense light emission
- Requires lower antibody concentration
- Option to reactivate after original signal is depleted
- Allows detection of as low as 10 fg protein on dot blot and 10 pg on Western blot experiments
- Supplied with a novel blocking agent which allows a rapid blocking step and produces a clear background
- The option to adjust exposure time, from several seconds to several minutes, for optimum detection of target antigens
- Suitable for Nylon, NC & PVDF membranes



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------------------|----------|
| GB78610 | femtoLUCENT™ PLUS-HRP Reagent Kit Includes: Detection Reagent-I, 0.5 mL Detection Reagent-II, 0.25 mL Detection Buffer (2X), 250 mL femtoTBST (10X), 250 mL BLOT-QuickBlocker™, 175 g | 5000 cm ² | \$187.40 |
| GB78610R38 | femtoLUCENT™ PLUS Detection System with Goat anti-mouse IgG H&L-HRP Includes same components as GB78610 plus Goat Anti-Mouse IgG H&L-HRP, 2 mL | 5000 cm ² | 337.30 |
| GB78610R39 | femtoLUCENT™ PLUS Detection System with Goat anti-rabbit IgG H&L-HRP Includes same components as GB78610 plus Goat Anti-Rabbit IgG H&L-HRP, 2 mL | 5000 cm ² | 337.30 |
| GB78610R42 | femtoLUCENT™ PLUS Detection System with Rabbit anti-goat IgG H&L-HRP Includes same components as GB78610 plus Rabbit Anti-Goat IgG H&L-HRP, 1.5 mL | 5000 cm ² | 440.60 |
| GB78610AP | femtoLUCENT™ PLUS AP Includes: AP Detection Reagent-Substrate, 50 mL femtoTBST [10X], 250 mL NAP-Blocker™, 2 x 250 mL | 1500 cm ² | 208.40 |
| GB78610APR43 | femtoLUCENT™ PLUS AP with Goat anti-Mouse-AP Antibody Includes same components as GB78610AP plus Goat anti-Mouse IgG-AP, 1 mL | 1500 cm ² | 388.40 |
| GB78610APR44 | femtoLUCENT™ PLUS AP with Goat anti-Rabbit-AP Antibody Includes same components as GB78610AP plus Goat anti-Rabbit IgG-AP, 1 mL | 1500 cm ² | 388.40 |
| GB78610AOR47 | femtoLUCENT™ PLUS AP with Rabbit anti-Goat-AP Antibody Includes same components as GB78610AP plus Rabbit anti-Goat IgG-AP, 1 mL | 1500 cm ² | 381.90 |

USB Rodeo™ ECL WESTERN BLOTTING REAGENTS

A well characterized detection chemistry for routine detection using HRP conjugated antibodies and luminol-based enhanced chemiluminescence.



Ease of Use

Rodeo™ ECL Detection reagents may be used with standard protocols for chemiluminescent Western blot detection.

Ability to Re-Probe

- Blots detected with Rodeo ECL Reagents may be stripped and re-probed using standard procedures
- Rodeo™ ECL Western Blotting Reagents are recommended for routine detection
- Uses enhanced luminol-based chemiluminescence
- Detects nanogram levels of target protein
- May be used with either nitrocellulose or PVDF membranes

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------------------|----------|
| UB72550 | Rodeo™ ECL Western Blotting Detection Kit Includes: Rodeo™ ECL Detection Reagents* 1 and 2, 2 x 50 mL Anti-Rabbit IgG HRP Conjugate, 200 µL Anti-Mouse IgG HRP Conjugate, 200 µL Rodeo™ Blocker, 25 g Rodeo™ Saddle Soap, 10% Solution, 14 x 2 mL | 1000 cm ² | \$184.70 |
| UB72551 | Rodeo™ ECL Western Blotting Reagent Pack Includes Rodeo™ ECL Detection Reagents 1 and 2, 5 mL | 100 cm ² | 36.90 |
| UB72552 | Rodeo™ ECL Western Blotting Reagent Pack Includes Rodeo™ ECL Detection Reagents 1 and 2, 50 mL | 1000 cm ² | 116.10 |
| UB72553 | Rodeo™ ECL Western Blotting Reagent Pack Includes Rodeo™ ECL Detection Reagents 1 and 2, 250 mL | 5000 cm ² | 201.90 |

USB Rodeo™ SADDLE SOAP, 10% SOLUTION

Agent for reducing background on membranes (nitrocellulose, PVDF) used in Western blotting and other applications

Rodeo™ Saddle Soap is a 10% oxidant-free detergent solution for Rodeo ECL Kit and other Western blotting applications. Rodeo™ Saddle Soap is a novel detergent that reduces background on blots. It may be used as a direct replacement for Tween®-20 in Western blotting protocols. It may be purchased separately for use with the Rodeo™ ECL Detection Reagents. Alternatively, Rodeo™ Saddle Soap is conveniently included in the Rodeo™ ECL Western Blotting Detection Kit.

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------------------|-----------|---------|
| UB72566S1 | Rodeo™ Saddle Soap, 10% Solution | 10 x 2 mL | \$76.50 |
| UB72566S2 | Rodeo™ Saddle Soap, 10% Solution | 5 x 10 mL | 128.00 |

USB Rodeo™ BLOCKER

Agent for blocking binding sites on membranes (nitrocellulose, PVDF) for Western blotting

Rodeo™ Blocker is a milk based blocking agent to be utilized with the Rodeo™ ECL Western blotting procedure to block non-specific protein binding sites on membranes. Suggested concentrations range from 1 to 5% in desired buffer for blocking and antibody dilutions. For best results, make Rodeo™ Blocker solutions fresh daily or store for no longer than 1 week at 4°C. Note: Not recommended for blocking in the detection of streptavidin/biotin.

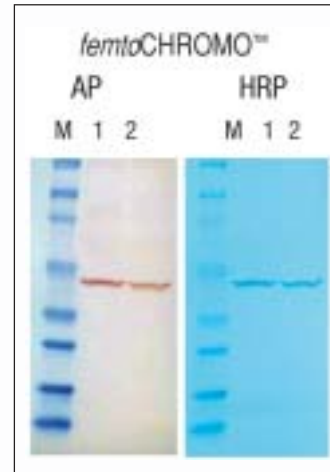
| Product Number | Description | Pkg Size | Price |
|----------------|----------------|----------|---------|
| UB72565S1 | Rodeo™ Blocker | 25 gm | \$30.20 |
| UB72565S2 | Rodeo™ Blocker | 100 gm | 120.90 |

G-BIOSCIENCES femtoCHROMO™

Chromogenic detection kits for Western blots

femtoCHROMO™ kits are a new range of products for the detection of alkaline phosphatase (AP) and horseradish peroxidase (HRP) labeled antibodies on Western or immunoblots.

- Ready to use
- Single detection step
- High signal to background ration
- High reproducibility, minimal fading
- femtoCHROMO™ HRP detects >20ng
- femtoCHROMO™ AP detects >5ng



| Product Number | Description* | Pkg Size | Price |
|----------------|---|----------------------|----------|
| GB786385 | femtoCHROMO™ HRP Detection Kit Includes: TMB Substrate, 200 mL femto TBST (10X), 250 mL BLOT QuickBlocker™, 200g | 2500 cm ² | \$160.70 |
| GB786386 | femtoCHROMO™ HRP Detection Kit with Goat anti-Mouse-HRP Antibody Includes same components as GB786385 plus Goat anti-Mouse IgG-HRP, 2 mL | 4000 cm ² | 278.30 |
| GB786387 | femtoCHROMO™ HRP Detection Kit with Goat anti-Rabbit-HRP Antibody Includes same components as GB786385 plus Goat anti-Rabbit IgG-HRP, 2 mL | 4000 cm ² | 278.30 |
| GB786380 | femtoCHROMO™ AP Detection Kit Includes: BCIP-NBT Substrate, 200 mL femto TBST (10X), 250 mL BLOT QuickBlocker™, 200g | 2500 cm ² | 165.10 |
| GB786381 | femtoCHROMO™ AP Detection Kit with Goat anti-Mouse-AP Antibody Includes same components as GB786380 plus Goat anti-Mouse IgG-AP, 2 mL | 4000 cm ² | 304.90 |
| GB786382 | femtoCHROMO™ AP Detection Kit with Goat anti-Rabbit-AP Antibody Includes same components as GB786380 plus Goat anti-Rabbit IgG-AP, 2 mL | 4000 cm ² | 304.90 |

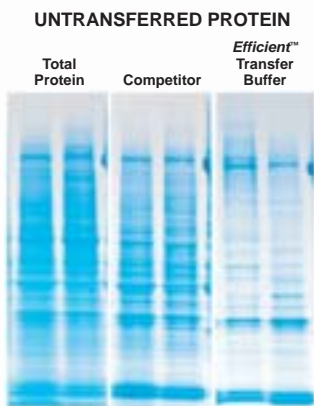
* Substrates are also available separately. Please contact our Technical Support Department for more information.

G-BIOSCIENCES Efficient™ WESTERN TRANSFER BUFFER



Improved transfer buffer for increased protein transfer efficiency

Efficient™ Western Transfer Buffer is a pre-made, ready-to-use 20x transfer buffer prepared for optimal conductivity and efficient protein transfer without generating excessive heat or transfer distortion.



A comparison of protein transfer efficiency between Efficient™ Western Transfer Buffer stained gel after transfer (lanes 5-6) and a leading competitor stained gel after transfer (lanes 3-4). The total protein, before transfer, is shown in lanes 1 and 2. The image shows the untransferred protein remaining in the gels. A high concentration of protein (75µg) was loaded to clearly show the difference in the transfer buffers.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| GB786019 | Efficient™ Western Transfer Buffer [20x] | 1L | \$63.40 |

G-BIOSCIENCES HIGH MOLECULAR WEIGHT TRANSFER BUFFER [5X]

Based on Efficient™ Western Transfer Buffer, this buffer is designed to facilitate the transfer of notoriously difficult high molecular weight proteins (>70kDA) during Western blotting.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| GB786423 | High Molecular Weight Transfer Buffer [5X] | 1L | \$67.80 |

G-BIOSCIENCES MEMBRANES AND PADDING

Pre-cut membranes are supplied sandwiched between blotting paper padding. Simply soak the membrane in transfer buffer and assemble with the gel in a transfer cassette.

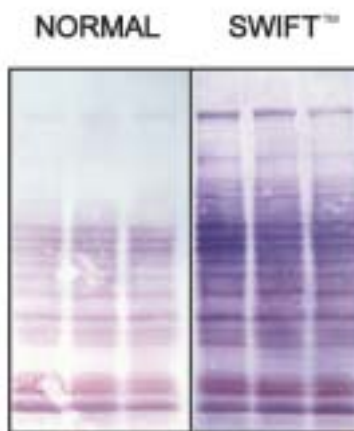
| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB786018NC | Nitrocellulose Membrane and Padding – 7.5 x 8.5 cm | 20 | \$139.20 |
| GB786018PV | PVDF Membrane and Padding – 7.5 x 8.5 cm | 20 | 147.80 |
| GB786056NC | Nitrocellulose Membrane and Padding – 10 x 10 cm | 20 | 147.80 |
| GB786056PV | PVDF Membrane and Padding – 10 x 10 cm | 20 | 147.80 |

G-BIOSCIENCES SWIFT™ TRANSFER PADS

Increase transfer efficiency and reduce transfer time

SWIFT™ transfer pads are treated with a proprietary electrolyte buffer to enhance Western blot transfer efficiency (patent pending). Each SWIFT™ transfer pad can reduce transfer time by over 50%, while consistently producing high efficiency transfer. The SWIFT™ transfer pad technology prevents overheating and power shortages by allowing lower chemical concentrations in the transfer buffers, without affecting transfer efficiency. The SWIFT™ transfer pad technology combines the simplicity of semi-dry sandwich assembly with the improved efficiency of wet blot transfers, reducing the need for assembly in large tanks of buffer. SWIFT™ is compatible with any transfer system and is supplied with or without nitrocellulose or PVDF membranes.

- High efficiency transfer
- Reduce transfer time by over 50%
- No overheating or power shorts
- No distortion or poor high molecular weight protein transfer



Increase efficiency in protein transfer by SWIFT™ transfer pad.

15 µg mouse liver protein was transferred normally (left) or with a SWIFT™ transfer pad (right) for 30 minutes and the resulting membranes were stained for protein with BLOT-FastStain™.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| GB786370 | SWIFT™ Transfer Pad (7.5 x 8.5cm) Includes: 500mL SWIFT™ Buffer | 20 | \$60.70 |
| GB786371 | SWIFT™ Transfer Pad Nitrocellulose (7.5 x 8.5cm) Includes: 500mL SWIFT™ Buffer | 20 | 173.00 |
| GB786372 | SWIFT™ Transfer Pad PVDF (7.5 x 8.5cm) Includes: 500mL SWIFT™ Buffer | 20 | 176.30 |
| GB786373 | SWIFT™ Transfer Pad (9.5 x 15cm) Includes: 500mL SWIFT™ Buffer | 20 | 73.90 |
| GB786374 | SWIFT™ Transfer Pad Nitrocellulose (9.5 x 15cm) Includes: 500mL SWIFT™ Buffer | 20 | 360.10 |
| GB786375 | SWIFT™ Transfer Pad PVDF (9.5 x 15cm) Includes: 500mL SWIFT™ Buffer | 20 | 368.80 |

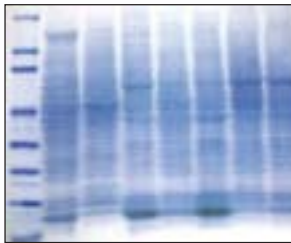
G-BIOSCIENCES BLOT FastStain™

Protein specific reversible stain for Western blot transfer membranes

A unique stain for reversibly staining protein on nitrocellulose and PVDF transfer membranes.

BLOT-FastStain™ only stains proteins and leaves the background absolutely untouched and brilliant white resulting in high band visibility. The staining procedure takes 10 minutes and has a sensitivity of 2ng BSA - higher than silver stains. De-stain the membrane by simply rinsing in warm water for 10 minutes.

Staining and de-staining does not affect the biological properties of the proteins or downstream processing of the membranes.



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB78634 | BLOT-FastStain™ Sufficient for 25 Blots Includes: Reagent A: Fixer, 120 mL Reagent B: Developer, 125 mL | Kit | \$196.70 |

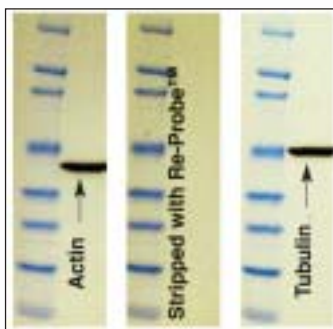
G-BIOSCIENCES Western Re-Probe™

For multiple probing of Western blots

Re-Probe™ is specifically formulated to dissociate and remove antibodies from the membrane bound proteins without destroying the antigenic binding affinity. Therefore, you can reuse your Western blots after stripping with Re-Probe™.

Removal of antibodies also removes corresponding chemiluminescent or radio-isotopic signals from the blots. The stripped blots can then be probed with new probes.

Re-Probe™ is not recommended for stripping color producing Western blots that use substrates such as TMB, chloronaphthol, and DAB.



Mouse liver extract after electrophoresis was transferred onto PVDF membrane. The Western blot was first probed for actin. After stripping the membrane with Re-Probe™, it was re-probed for tubulin antigens. Tubulin band was developed without loss of signal or background problems normally associated with re-probing.

| Product Number | Description | Pkg Size | Price |
|----------------|------------------------|----------|----------|
| GB786119 | Western Re-Probe™ [5X] | 100 mL | \$155.20 |

G-BIOSCIENCES WESTERN BLOT BLOCKING BUFFERS

Blocking agents for Immunoassays

NAP-BLOCKER™

A new non-animal blocking protein preparation for immunoassays

- For improved assay sensitivity, clean background, and a high signal-to-background ratio
- Non-animal protein - it will not cross react with animal source antigens, or primary and secondary antibodies
- Free from biotin and other cross-reacting agents present in animal source blocking agents
- Ensures uniform blocking without non-specific binding

BLOT QuickBlocker™

Novel modified milk protein for rapid blocking

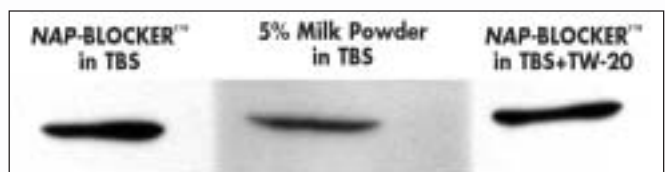
- BLOT QuickBlocker™ produces a semi-clear solution, which allows users the option to examine blot membranes during the blocking procedures
- No inhibition to peroxidase
- Produces a clear background
- High blocking efficiency
- Blocking time of 10-15 minutes

BLOK™ Blocking Products

BLOK™ BSA — a 10% BSA solution for blocking Westerns, ELISAs and Dot Blots. Available in TBS or PBS buffers.

BLOK™ Casein — a 1% Casein (w/v) solution for blocking Westerns, ELISAs and Dot Blots. Uses pH 7.4, Kathon as a preservative. Available in TBS or PBS buffers.

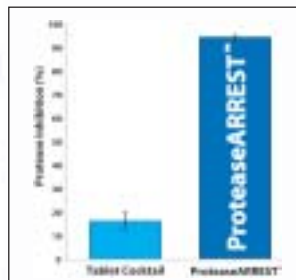
BLOK™ BLOTTO in TBS — a 5% novel modified milk protein solution for blocking Westerns, ELISAs and Dot Blots.



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB786190 | NAP-BLOCKER™ [2X] | 1 L | \$201.80 |
| GB786190PBS | NAP-BLOCKER™ [2X] in PBS | 1 L | 151.50 |
| GB786190TBS | NAP-BLOCKER™ [2X] in TBS | 1L | 151.50 |
| GB786011 | BLOT QuickBLOCKER™ | 175 g | 32.40 |
| GB786192 | BLOK™ BLOTTO 5% modified milk solution | 1 L | 110.90 |
| GB786193 | BLOK™ BSA in TBS, 10% solution | 125 mL | 144.10 |
| GB786194 | BLOK™ Casein in PBS, 1% solution | 1 L | 124.40 |
| GB786195 | BLOK™ BSA in PBS, 10% solution | 200 mL | 141.70 |
| GB786196 | BLOK™ Casein in TBS, 1% solution | 1 L | 110.90 |

G-BIOSCIENCES ProteaseArrest™

ProteaseArrest™ is a broad range protease inhibitor cocktail with wide species specificity. It contains agents to inhibit serine, cysteine, and metalloproteases as well as calpain proteases. ProteaseArrest™ shows excellent inhibition of protease activity and is suitable for the protection of proteins during sample preparation and protein purification from animal tissues, plants, yeast and bacteria.



ProteaseArrest™ outperforms tablet format protease inhibitor cocktails.

Protease inhibition in mouse pancreas lysate with ProteaseArrest™ (EDTA-free) and a commercially available EDTA-free tablet protease cocktail was compared, using Protease Screening™ Kit. The assay used 0.5mg/mL pancreas lysate and incubation conditions of 37°C for 2.5 hours. ProteaseArrest™ inhibited over 95% of total proteases, almost 80% more protease inhibition compared to the tablet protease inhibitor cocktail.

Bacterial ProteaseArrest™ - Inhibits bacterial serine, cysteine and other bacteria specific proteases including aminopeptidases and aspartic proteases.

Plant ProteaseArrest™ - Inhibits plant serine, cysteine and other plant specific proteases including aminopeptidases, aspartic and metalloproteases.

Mammalian ProteaseArrest™ - Inhibits mammalian serine, cysteine and other mammal specific proteases including aminopeptidases, trypsin-like and aspartic proteases.

Yeast/Fungal ProteaseArrest™ - Inhibits yeast and fungal serine, cysteine and metalloproteases.

ProteaseArrest™ cocktails contain:

- Irreversible and reversible protease inhibitors
- Optional EDTA solution for inhibition of metalloproteases

Focus™ ProteaseArrest™

Focus™ ProteaseArrest™ is fully compatible with 2D electrophoresis and subsequent mass spectrometry. It uses an alternative to EDTA as an inhibitor of metalloproteases to optimize the action of nucleases or to remove nucleic acids from samples. It also uses PMSF as its primary serine protease inhibitor as opposed to the commonly used pefabloc® which has been reported to modify proteins at high concentrations and results in artifacts in 2D electrophoresis and mass spectrometry.

| Product Number | Description | Pkg Size | Price |
|----------------|--|------------|----------|
| GB786108 | ProteaseArrest™ [100X] Includes: EDTA Solution 0.5M [100X], 2mL | 2mL | \$135.50 |
| GB786329 | OneQuant™ ProteaseArrest™ [100X] Includes: EDTA Solution 0.5M [100X], 2mL | 24 x 100µL | 173.70 |
| GB786330 | Bacterial ProteaseArrest™ [100X] Includes: EDTA Solution 0.5M [100X], 2mL | 2 mL | 135.50 |
| GB786332 | Plant ProteaseArrest™ [100X] | 2 mL | 135.50 |
| GB786331 | Mammalian ProteaseArrest™ [100X] Includes: EDTA Solution 0.5M [100X], 2mL | 2 mL | 135.50 |
| GB786333 | Yeast/Fungal ProteaseArrest™ [100X] | 2 mL | 135.50 |
| GB786108F | Focus™ ProteaseArrest™ [100X] | 1 mL | 157.70 |

G-Biosciences also offers protease assays and screening systems.

Please contact our Technical Support Department for more information.

G-BIOSCIENCES ProteCEASE™

Protease inhibitor cocktail for large sample volumes

ProteCEASE™ protease inhibitor cocktails contain optimized concentrations of various protease inhibitors, which can be used during protein purification from various samples including animals, plants, yeast, bacteria and fungal lysates.



- Greater than 90% protease inhibition
- Inhibits a wide variety of proteases, including cysteine, serine and metalloproteases
- Available with and without EDTA
- Supplied reconstitution buffer ensures all inhibitors dissolve in sample
- Designed for 50 and 100 mL sample sizes

| Product Number | Description | Pkg* Size | Price |
|----------------|---|-----------|----------|
| GB786326 | ProteCEASE™-50, EDTA Free 1 vial per 50 mL buffer Includes: ProteCEASE™ Reconstitution Buffer, 2 x 2.5 mL | 10 vials | \$191.80 |
| GB786327 | ProteCEASE™-100 EDTA Free 1 vial per 100 mL buffer Includes: ProteCEASE™ Reconstitution Buffer, 2 x 2.5 mL | 10 vials | 375.40 |
| GB786334 | ProteCEASE™-50 plus EDTA 1 vial per 50 mL buffer Includes: ProteCEASE™ Reconstitution Buffer, 2 x 2.5 mL EDTA Solution 0.5M [100X], 5 mL | 10 vials | 191.80 |
| GB786336 | ProteCEASE™-100 plus EDTA 1 vial per 100 mL buffer Includes: ProteCEASE™ Reconstitution Buffer, 2 x 2.5 mL EDTA Solution 0.5M [100X], 5 mL | 10 vials | 373.20 |

* ProteCEASE™-50 is also available in a 20 vial format.

G-BIOSCIENCES PhosphataseArrest™

PhosphataseArrest™ cocktails consist of a broad spectrum of phosphatase inhibitors that are developed to target specific phosphatase categories. They are ideal for inhibition in tissue extractions and cell lysis experiments and are compatible with most common protein assays.

PhosphataseArrest™ I

- Consists of 5 phosphatase inhibitors that target all phosphatase categories including serine/threonine specific, tyrosine specific and dual specificity phosphatases
- Not suitable for direct IEF/2D studies due to high salt concentrations

PhosphataseArrest™ II

- Consists of 5 phosphatase inhibitors that target acid, alkaline and tyrosine phosphatases
- Not suitable for direct IEF/2D studies due to high salt concentrations

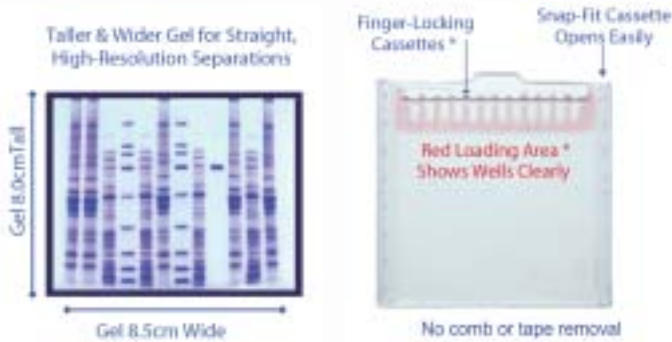
PhosphataseArrest™ III

- Consists of 3 phosphatase inhibitors that target alkaline and serine/threonine phosphatases
- Compatible with IEF/2D studies

| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------------|----------|----------|
| GB786450 | PhosphataseArrest™ I [100X] | 1mL | \$171.90 |
| GB786451 | PhosphataseArrest™ II [100X] | 1mL | 63.40 |
| GB786452 | PhosphataseArrest™ III [100X] | 1mL | 63.40 |

EXPEDEON RunBlue™ CASSETTE GELS

- Gels for SDS, DNA and Native-PAGE
- High resolution separations
- Incredibly strong and elastic — 10 cm x 10 cm cassettes with a long shelf life
- Red loading area shows wells clearly
- Snap-fit cassette opens easily
- Long well fingers prevent sample carry-over
- Compatible with Invitrogen X-cells, Owl Wolverine, Hoefer Tall Mighty Small and Dual Run/Blot Cell



| Product Number | Gel % | Wells | Maximum Sample Volume | Pkg Size | Price |
|----------------|-------|-------|-----------------------|----------|-------|
|----------------|-------|-------|-----------------------|----------|-------|

Cassette Gels for SDS PAGE

| | | | | | |
|------------|--------|----|--------|------|----------|
| XPNXG00812 | 8% | 12 | 35 µL | Each | \$147.70 |
| XPNXG00827 | 8% | 17 | 17 µL | Each | 147.70 |
| XPNXG01012 | 10% | 12 | 35 µL | Each | 147.70 |
| XPNXG01027 | 10% | 17 | 17 µL | Each | 147.70 |
| XPNXG01212 | 12% | 12 | 35 µL | Each | 147.70 |
| XPNXG01227 | 12% | 17 | 17 µL | Each | 147.70 |
| XPNXG01612 | 16% | 12 | 35 µL | Each | 147.70 |
| XPNXG01627 | 16% | 17 | 17 µL | Each | 147.70 |
| XPNXG40812 | 4-8% | 12 | 35 µL | Each | 147.70 |
| XPNXG40827 | 4-8% | 17 | 17 µL | Each | 147.70 |
| XPNXG41212 | 4-12% | 12 | 35 µL | Each | 147.70 |
| XPNXG41227 | 4-12% | 17 | 17 µL | Each | 147.70 |
| XPNXG42012 | 4-20% | 12 | 35 µL | Each | 147.70 |
| XPNXG42027 | 4-20% | 17 | 17 µL | Each | 147.70 |
| XPNXG42002 | 4-20% | 2D | 300 µL | Each | 147.70 |
| XPNXG82012 | 10-20% | 12 | 35 µL | Each | 147.70 |
| XPNXG82027 | 10-20% | 17 | 17 µL | Each | 147.70 |

Cassette Gels for DNA and Native Protein PAGE

| | | | | | |
|------------|-------|----|-------|------|----------|
| XPNXN01012 | 10% | 12 | 35 µL | Each | \$147.70 |
| XPNXN01027 | 10% | 17 | 17 µL | Each | 147.70 |
| XPNXN02012 | 20% | 12 | 35 µL | Each | 147.70 |
| XPNXN02027 | 20% | 17 | 17 µL | Each | 147.70 |
| XPNXN20812 | 2-8% | 12 | 35 µL | Each | 147.70 |
| XPNXN20827 | 2-8% | 17 | 17 µL | Each | 147.70 |
| XPNXN32012 | 3-20% | 12 | 35 µL | Each | 147.70 |
| XPNXN32027 | 3-20% | 17 | 17 µL | Each | 147.70 |

Also available: 20% gels and 1- or 2D- well gels in all percentages on a special order basis.

EXPEDEON BUFFERS AND SOLUTIONS FOR SDS PAGE

| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------------|----------|---------|
| XPNXB31010 | LDS Sample Buffer (4X) | 10 mL | \$23.40 |
| XPNXA31010 | LDS Sample Buffer (5X) | 8 mL | 23.40 |
| XPNXB32001 | DTT Reducer (10X) | 1 mL | 13.50 |
| XPNXB50500 | SDS Run Buffer (20X) | 500 mL | 81.30 |
| XPNXB50525 | SDS Run Buffer (20X) | 5 L | 643.90 |
| XPNXB14500 | SDS Run Buffer (Reducing 20X) | 500 mL | 81.30 |
| XPNXB14525 | SDS Run Buffer (Reducing 20X) | 5 L | 643.90 |

OTHER BUFFERS

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------------------|----------|---------|
| XPNXB82500 | TGS Run/Blot Stock Buffer | 500 mL | \$43.10 |
| XPNXB61500 | DNA/Native Run Buffer (20X) | 500 mL | 81.30 |

BLOTTING MEMBRANES

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|----------|
| XPNXA19020 | Blot Sandwich NC 0.2 µm, 90 X 85mm | 20 | \$195.70 |
| XPNXA29320 | Blot Sandwich PVDF 0.2 µm, 90 X 85mm | 20 | 257.30 |
| XPNXE00017 | Sponge Pod Kit, 9 x 9 cm | 4 | 23.40 |

OTHER SOLUTIONS FOR COMPOSITE POLYMER GELS

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------|----------|---------|
| XPNXA30001 | Antioxidant (800X) | 1 mL | \$18.50 |
| XPNXA30010 | Antioxidant (800X) | 10 mL | 35.70 |
| XPNXA04510 | Gel Drying Solution (1X) | 1 L | 43.10 |

Dual Run and Blot System Electrophoresis and Western blotting in one instrument.



| Product Number | Description | Price |
|----------------|--------------------------|----------|
| XPNXE00002 | Dual Run and Blot System | \$675.90 |

GEL STAINS

G-BIOSCIENCES PROTEIN GEL STAIN

G-Biosciences has developed a wide selection of electrophoresis gel stains for visualizing proteins that vary in sensitivity, staining time and reversibility.



G-Biosciences Protein Gel Stain Selection Guide

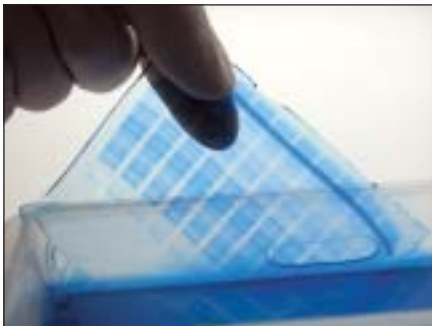
| Product | Sensitivity to BSA (ng) | Staining Time (min.) | Features and Applications |
|---------------------------|-------------------------|----------------------|---|
| LabSafe GEL Blue™ | 4-8 | 3-60 | - Improved Coomassie based stain - No destaining required - For native, denaturing, isoelectric focusing and 2D gels |
| FASTsilver™ | 0.5-1.0 | 60-90 | - Produces a clear background for maximum visibility - Does not use protein modifiers - Stains proteins and nucleic acids - For native, denaturing, isoelectric focusing and 2D gels |
| FOCUS FASTsilver™ | 0.5-1.0 | 60-90 | - Allows optimal proteolytic digestion - Allows maximum peptide extraction - Mass spectrometry compatible - For native, denaturing, isoelectric focusing and 2D gels |
| RAPIDstain™ | 4-8 | 5-60 | - Improved Coomassie based stain - No destaining required - For native, denaturing, isoelectric focusing and 2D gels |
| Reversible Copper Stain™ | 0.1-0.5 | 5-10 | - Reversible - Compatible with subsequent application including elution and transfers - Not compatible with native gels or gels containing tricine or glycine |
| Reversible Zinc Stain™ | 0.1-0.5 | 10-20 | - Reversible - High contrast protein bands - Able to detect protein unable to be detected with silver stains - Stains glycoproteins, phosphoproteins and other problematic proteins - Compatible with subsequent application including elution and transfers - For native and SDS denatured gels and gels containing glycine and tricine |
| Glycoprotein Staining Kit | 0.5-1.0 | 180 | - Combined dye and silver stain kit - Improved glycoprotein detection - For native, denaturing, isoelectric focusing and 2D gels |

PROTEOMICS

G-BIOSCIENCES LabSafe GEL Blue™

An ultra sensitive, fast, ready-to-use protein stain

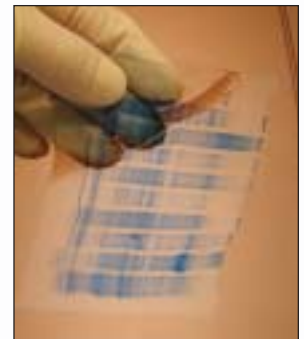
- An enhanced protein stain that is based on Coomassie® dye
- Offers unsurpassed sensitivity and rapid band visualization
- Supplied in a ready-to-use format, which is added directly to protein gels following electrophoresis after a brief wash step



G-BIOSCIENCES RAPIDstain™

Get crystal clear backgrounds without de-staining

- An ultra sensitive (4-8 ng), ready-to-use protein stain based on Coomassie® dye
- No fixation step is needed - simply pour RAPIDstain™ on your gel, and bands develop within 5-10 minutes and reach a maximum visibility in 60 minutes
- Mini-gels can be stained in 10 minutes
- Works with Native PAGE, SDS-PAGE, Iso-electric focusing or 2D Gels



| Product Number | Description | Pkg Size | Price |
|----------------|-------------------|----------|---------|
| GB78635 | LabSafe GEL Blue™ | 1 L | \$85.00 |
| GB78635G | LabSafe GEL Blue™ | 1 Gallon | 189.60 |

| Product Number | Description | Pkg Size | Price |
|----------------|-------------|----------|---------|
| GB78631 | RAPIDstain™ | 1L | \$85.00 |
| GB78631G | RAPIDstain™ | 1 Gallon | 189.60 |

G-BIOSCIENCES PN-Silver™ D-Stain

Stain, de-stain and re-stain your protein or nucleic acid gels

- Reduces the staining of silver stained gels and reveals bands not discernible otherwise
- De-stain the gels completely and re-stain your gels or follow other downstream applications with your gels, such as Western transfer, sequencing etc.
- Suitable for both protein and nucleic acid gels

| Product Number | Description | Pkg Size | Price |
|----------------|--|------------|----------|
| GB786199 | PN-Silver™ D-Stain <i>Sufficient for 25 Mini-Gels</i> | 2 x 250 mL | \$158.90 |

G-BIOSCIENCES FOCUS™ FastSilver™

Mass Spec compatible silver staining for enhanced performance

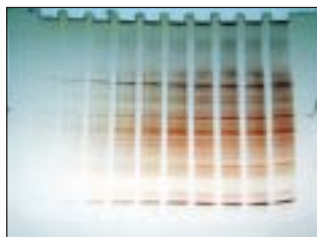
- Sub-nanogram sensitive silver staining kit which produces a crystal clear background, high visibility, and maximal peptide recovery needed for critical analysis by mass spectrometry
- Does not use protein modifier glutaraldehyde
- Kit is provided with a silver-ion removing and de-staining reagent, SilverOUT™, which allows complete trypsin digestion and extraction of peptides needed for mass spectrometry

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB786240 | FOCUS™ FastSilver™ <i>Sufficient for 25 Gels</i> Includes: FOCUS™ SilverStain, 125 mL FOCUS™ Developer, 75 g Sensitizer-I, 4 mL Sensitizer-II, 4 mL SilverOUT™ I, 4 mL SilverOUT™ II, 4 mL | Kit | \$175.20 |

G-BIOSCIENCES FastSilver™

For staining proteins and nucleic acids

- Stains both proteins and nucleic acids with an exceptionally clear background
- Staining is 100 times more sensitive than Coomassie® Blue protein staining and 10 times more sensitive than ethidium bromide for DNA and RNA
- Does not contain glutaraldehyde which modifies protein molecules making protein bands unsuitable for protein digestion



| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB78630 | FastSilver™ <i>Sufficient for 25 Mini-Gels</i> Includes: Silver Stain, 125 mL Developer, 75 g Sensitizer-I, 4 mL Sensitizer-II, 4 mL | Kit | \$154.00 |

G-BIOSCIENCES 5 Minute Reversible Copper Stain™

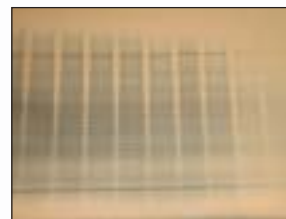
- Stains gels within 5 minutes
- Reversible, simple and fast stain
- Allows subsequent elution, blotting, or other types of staining



| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GB78632CU | 5 Minute Reversible Copper Stain™ <i>Sufficient for 25 Mini-Gels</i> Includes: 5 Minute Reversible Copper Stain™, 125 mL De-Staining Solution CU (10X), 125 mL | Kit | \$158.90 |

G-BIOSCIENCES Reversible Zinc Stain™

- Reversible, simple, fast, and sensitive
- High contrast protein bands
- Works with native and SDS denatured gels and gels containing Glycine and Tricine
- Excellent for subsequent protein elution, blotting, sequencing, mass spectroscopy, etc.



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB78632Zn | Reversible Zinc Stain™ <i>Sufficient for 25 Mini-Gels</i> Includes: Zinc-Reagent-I, 125 mL Zinc-Reagent-II, 125 mL Reversible Zinc Stain™ (10X), 125 mL De-Staining Solution Zn (10X), 125 mL | Kit | \$158.90 |

G-BIOSCIENCES Glyco-Stain™

For staining glycoproteins after electrophoresis

- Detects proteoglycans and glycoproteins
- Stains both glycosylated and non-glycosylated proteins
- Sensitivity at nano-gram level (~1ng/band)

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| GB786254 | Glyco-Stain™ <i>Sufficient for 25 Mini-Gels</i> Includes: Glyco-Fixing Solution, 250 mL Glyco-Oxidizing Reagent, 14 g Glyco-Reducing Reagent, 7 g GlycoBlue Solution, 25 mL Glyco-Positive Control (HRP), 2.5 µg Glyco-Negative Control (Soybean Trypsin Inhibitor), 2.5 µg FastSilver™, 1 Kit | Kit | \$245.10 |

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^{MJS} BioLynx Inc. is pleased to announce that we are now a Canadian distributor for the complete line of Enzo[®] Life Sciences products. Enzo[®] Life Sciences, Inc. is a source for a broad range of cutting-edge research reagents. Their offering includes Enzo[®], ALEXIS[®] Biochemicals and BIOMOL[®] brand products, as well as the Assay Designs[®] and Stressgen[®] lines.

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- Cellular Analysis — Cell cycles & cell death, cellular stress, fluorescent probes, antibodies and biomarkers
- Post Translational Modification — Acetylation, methylation, phosphorylation, ubiquitinylation and SUMOylation
- Signal Transduction — Receptor antagonists, antagonists & antibodies, second messengers, kinase cascades & proteolysis
- Cancer & Immunology — Tumor markers, natural products & antibiotics, innate immunity, biomarkers, detection sets, ELISA kits
- Drug Discovery — 1[°] and 2[°] screening assays, compound libraries, enzymes, substrates & small molecules

Enzo[®] Life Sciences — Brand Overview

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Over 200 assays for biomarkers relevant to inflammation and immunity, oxidative and cellular stress, steroid and hormone biology, cell signaling and metabolism

Stressgen[®]

Stressgen[®] brand antibodies, proteins and kits for heat shock proteins, chaperones and mediators of cellular stress

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Antibodies, reagents and systems for signal transduction, lipid signaling, post translational analysis, proteolysis, ubiquitin and proteasome research

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Biochemicals and reagents for apoptosis, cell biology, cancer and immunology, cell adipogenesis and natural products research



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**Abgent was built to complete the
Genome Omniscient Antibody Library (GOAL)**

Abgent develops primary antibodies and provides first-in-class custom peptide synthesis and antibody development. Their antibodies are widely used for Autophagy, Apoptosis, Stem Cells, Phosphorylation, Cell Function and Gene Regulation research. Synthesis of difficult peptides; including long peptides, is a core competency. High-quality, rapid turnaround and personal support is guaranteed.

The purpose of "GOAL" is to provide one or more validated antibodies for every human protein. This antibody sensing library will accelerate research in the life sciences. Abgent's extensive portfolio of antibodies includes the following:

- 1000+ antibodies against the entire human kinome
- 150+ antibodies for autophagy
- 400+ antibodies for stem cell research
- 200+ phosphospecific antibodies to the MAP kinase and apoptosis pathways
- Comprehensive antibodies sets for methylation, acetylation, sumoylation, ubiquitination pathways.

- *Apoptosis*
- *Autophagy Pathway*
- *Cell Function*
- *Neurosciences*
- *Nuclear Signaling*
- *Phosphospecific*
- *Protein Modification*
- *Stem Cell*
- *Tag Specific*

Antibody Sampler Kits . . .

Adding Value to Your Research with Sample Sizes

Sampler kits offer an affordable way to purchase multiple validated antibodies from Abgent's comprehensive antibody product lines. Assemble a collection of antibodies to your pathway of interest, or economically screen for the antibody that is perfect for your application.

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1. Choose your antibodies from the qualified antibodies for each sampler kit. Minimum of 5 antibodies per order.
2. Call 1-888-593-5969 to place your order.
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| | | |
|---------------------------------|-------------------------------------|------------------------------------|
| AS1000a Apoptosis Sampler Kit | AS1003a Methylation Sampler Kit | AS1006a Stem Cell Sampler Kit |
| AS1001a Autophagy Sampler Kit | AS1004a Neurosciences Sampler Kit | AS1007a Sumoylation Sampler Kit |
| AS1002a Acetylation Sampler Kit | AS1005a Phosphospecific Sampler Kit | AS1008a Ubiquitination Sampler Kit |

Abgent offers special trial pricing on select antibodies in a wide range of research areas! With over 3500 antibodies in their portfolio, and hundreds being released monthly, Abgent wants to reward customers who purchase ELISA-positive antibodies with savings OFF the list price. Purchase eligible antibodies on this page and take advantage of this special offer. These products are in second-generation characterization for additional applications, and are made available for a limited time at a discounted price until additional application data is collected.

*Visit www.biolynx.ca or email tech@biolynx.ca
for a complete listing of available Abgent antibodies.*



Protein Modification Antibodies

Abgent has the most expansive collection of protein modification antibodies. Their selection includes over 2100 antibodies, covering a wide range of research areas.

- | | | |
|-------------------------|--------------------------|------------------------|
| • <i>Sumoylation</i> | • <i>Phosphorylation</i> | • <i>Acetylation</i> |
| • <i>Ubiquitination</i> | • <i>Methylation</i> | • <i>Glycosylation</i> |

Protein modification incorporates the diverse and dynamic modifications of proteins crucial to cell physiology and disease. Approximately 5-10% of the genome is estimated code for enzymes that catalyze protein modification. More than two hundred different protein modifications are known to occur in living cells, and their cellular purposes are under active study by researchers around the world.

Cell Function Antibodies

Abgent has a broad collection of unique antibodies that target a wide variety of cell function proteins. With over 2500 products against targets in the research areas listed below, Abgent is your one stop center for a vast selection of antibodies.

- | | | |
|--------------------------------|-------------------------|-------------------------|
| • <i>Cell Cycle Regulation</i> | • <i>Cell Membrane</i> | • <i>Cell Structure</i> |
| • <i>Cancer</i> | • <i>Cell Signaling</i> | • <i>Metabolism</i> |

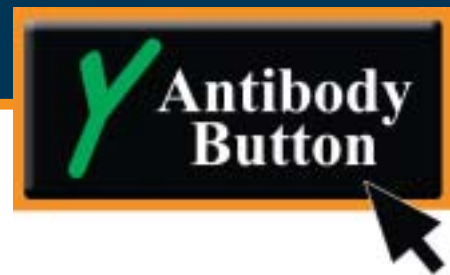
Cell function incorporates a wide array of cellular components, mechanisms, and processes vital for cell growth, maturity, replication, and death. Abgent has categorized its antibody selection in this area into the categories listed above. These categories cover numerous areas of research, and are linked and associated with many disorders and disease.

Autophagy Pathway Antibodies

Autophagy is a catabolic trafficking pathway for bulk destruction/ turnover of long-lived proteins and organelles via regulated lysosomal degradation. This process has recently been shown to be important in cancer, neurodegenerative diseases, and cardiovascular diseases. The process consists of sequential signaling, sequestration of cytoplasm, formation of a unique double membrane vesicle (autophagosome), targeting of the completed vesicle to the lysosome/vacuole followed by docking and fusion, and breakdown.

Abgent has the most extensive collection of autophagy antibodies. From the hallmark autophagy antibody APG8 (MAPLC3) to the newest autophagy antibodies such as LAMP and APG1, count on Abgent to find the most relevant, qualified antibodies for autophagy research. **Their Epishot™ Antigen Prediction Screen** enables them to design optimal peptides for these autophagy targets. This expanding collection includes over 70 antibodies targeting autophagic proteins.

***For any questions on the Abgent products, please contact our
Technical Support Team at tech@biolynx.ca or 1-888-593-5969***



The Global Source for Antibodies and Antigens

Meridian Life Science, Inc. is an industry leader in the supply of monoclonal and polyclonal antibodies, purified antigens, assay development reagents, and custom antibody services to pharmaceutical, biotechnology and diagnostic companies, and life science researchers.

Each year they introduce many novel products as a result of the combined efforts of their research and development teams, their technology transfer programs and their customers.

Product Offering:

- Animal Sera
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- Assay Detection & Misc. Reagents
- Autoimmune Reagents
- Bone & Calcium Metabolism
- Cancer Research
- Cardiac Markers
- CD Markers
- Collagen & Extracellular Matrix
- Cytokines & Growth Factors
- Cytoskeletal Filaments & Interstitial Proteins
- Drug Antibodies
- Enzymes
- Flow Cytometry Isotypic Controls & Blood Lysing Kit
- Hormones & Steroids
- Immunoglobulins, Animal
- Immunoglobulins, Human
- Infectious Diseases & Toxins
- Lipoproteins
- Major Histocompatibility Antibodies
- Neuroscience Reagents
- Platelets & Hemostasis Reagents
- Proteins & Bioactive Peptides
- Rubella Monoclonal Antibodies
- T-Cell Receptors
- Veterinary Products

TRU BLOCK™ HAMA BLOCKER

The Most Powerful HAMA Blocker Against Immunoassay Interference

Meridian Life Science, Inc. is pleased to introduce TRU Block™, the most potent active blocking reagent on the market today. TRU Block™ actively blocks the heterophilic antibody (HA) interference in immunoassays including but not limited to Human Anti-Mouse Antibody (HAMA) interference.



- **High Potency Blocking** - Reduces the amount of blocker usage by 5-20-fold when compared to mouse IgG
- **Large Lot Capability** - Reduces the cost of testing multiple lots
- **Lot-to-lot consistency** - Reduces the need for adjusting assay reagents to optimize performance. Each lot of TRU Block™ is tested in an ELISA assay against a control.
- **Extensive QC** - Ensures a well-characterized product. Testing includes a HAMA blocking functional assay, purity and bioburden testing.
- **> 95% purity** - Reduces levels of contaminating ingredients for consistent performance

| Product Number | Description | Pkg Size | Price |
|----------------|-------------|----------|----------|
| BDA66800H | TRU Block™ | 100 mg | \$276.50 |

StressMarq Biosciences Inc.



ABOUT STRESSMARQ

StressMarq is a company based in beautiful Victoria, British Columbia, Canada; and encompasses what is probably the most experienced combined commercial and scientific heat shock and cellular stress community worldwide. Drawing on two decades of experience in this sector, StressMarq embodies the following key elements which are aimed at providing the best possible research tools: scientific excellence, multiple product types (antibodies, proteins and kits for research purposes), and bridge products where the core competency of this company overlaps into cell signaling and other areas.

- Apoptosis • Cell Signaling • Chaperones • Heat Shock*
- Ion Channels • Neurobiology • Neuroscience • Organelle Markers*
- Oxidative Stress • Phosphorylation • Trafficking*

TRIAL PROGRAM

StressMarq Biosciences Inc. invites you to evaluate their antibodies!

The performance of each StressMarq antibody has been documented and is supported with online data sheets. However, as a new company, they cannot test each antibody in all applications or species. If their datasheets do not indicate whether the antibody is suitable for your application or species, we invite you to use the Trial Program*!

We only require you pay for shipping!

Antibodies eligible for this promotion are as follows:

| | | | |
|---|--|---|---|
| Hsp70 Antibody Clone C92 Product Number SMSMC100 | Hsp70/Hsc70 Antibody Clone N27 Product Number SMSMC104 | Hsp90 Antibody Clone H9010 Product Number SMSMC107 | Hsp90alpha Antibody Clone K41009 Product Number SMSMC108 |
| Hsp90 Complex Isolation Antibody Clone 8D3 Product Number SMSMC109 | PSD95 Antibody Clone 6G6 Product Number SMSMC122 | PSD95 Antibody Clone 7E3 Product Number SMSMC123 | CamKII Antibody Clone 6G9 Product Number SMSMC124 |
| CamKII Antibody Clone 22B1 Product Number SMSMC125 | Hsp90alpha Antibody Clone D7alpha Product Number SMSMC137 | LAMP1 Antibody Clone Ly1C6 Product Number SMSMC140 | P38 MAPK Antibody Clone 9F12 Product Number SMSMC152 |
| Nitrotyrosine Antibody Clone 39B6 Product Number SMSMC154 | DNA Damage Antibody Clone 15A3 Product Number SMSMC155 | <p>* Limit of 3 antibodies per trial per lab.</p> <p>Please contact us at 1-888-593-5969 or tech@biolynx.ca for more information.</p> | |

www.stressmarq.com

MJS BioLynx Inc. ... together ... StressMarq

CYTOKINES, CHEMOKINES AND GROWTH FACTORS

CYTOKINES AND GROWTH FACTORS

Cytokines and chemokines are small proteins secreted by a variety of cell types. They are important signal messengers mediating cell communication and activating other target cells through binding to specific receptors. Cytokines play a central role in the immune system - in which the chemokines mainly function as chemoattractants. They also coordinate and regulate other biological processes such as cell growth and development or tissue repair.

PromoKine's recombinant cytokines, chemokines, growth factors, soluble receptors and CD antigens have been produced in E. coli, yeast, insect or mammalian cells. They are highly purified and biologically active.

PromoKine



ANTIBODIES, CYTOKINES AND PROTEINS

HUMAN RECOMBINANT

| Product Number | Product Name | Description | Pkg Size | Price |
|----------------|---|--|----------|----------|
| PROC66551 | 4-1BB sReceptor (CD137), human, recombinant | Recombinant Human 4-1BB soluble Receptor (CD137) | 20 µg | \$199.00 |
| PROC66550 | 4-1BBL (CD137L), human, recombinant | Recombinant Human 4-1BB Ligand (CD137L) | 20 µg | 249.00 |
| PROC66625 | Acrp30 (His), human, recombinant | Recombinant Human Adiponectin (Adipocyte Complement Related Protein of 30 kDa; E. coli-derived, His-tagged)* | 50 µg | 199.00 |
| PROC66626 | Acrp30, human, recombinant (E. coli) | Recombinant Human Adiponectin (Adipocyte Complement Related Protein of 30 kDa; E. coli-derived) | 25 µg | 199.00 |
| PROC66628 | Acrp30, human, recombinant (HEK) | Recombinant Human Adiponectin (Adipocyte Complement Related Protein of 30 kDa; HEK cell-derived) | 10 µg | 199.00 |
| PROC66629 | Acrp30, human, recombinant (Sf9) | Recombinant Human Adiponectin (Adipocyte Complement Related Protein of 30 kDa; Sf9 insect cell-derived) | 25 µg | 249.00 |
| PROC60060 | Activin A, human, recombinant | Recombinant Human Activin A | 5 µg | 249.00 |
| PROC60062 | Activin B, human, recombinant | Recombinant Human Activin B | 5 µg | 249.00 |
| PROC63735 | AITRL, human, recombinant | Recombinant Human Activation Induced TNFR Member Ligand | 20 µg | 199.00 |
| PROC60015 | Ang-1, human, recombinant (Sf9) | Recombinant Human Angiopoietin 1 (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC60020 | Ang-2, human, recombinant (Sf9) | Recombinant Human Angiopoietin 2 (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC60090 | Angiostatin K1-3, human, recombinant | Recombinant Human Angiostatin Kringles 1-3 | 100 µg | 199.00 |
| PROC60095 | Angiostatin K1-4, human | Human Angiostatin Kringles 1-4 | 10 µg | 199.00 |
| PROC60070 | ANGPTL-3, human, recombinant | Recombinant Human Angiopoietin-like Protein 3 | 10 µg | 199.00 |
| PROC60072 | ANGPTL-4, human, recombinant | Recombinant Human Angiopoietin-like Protein 4 | 10 µg | 199.00 |
| PROC60016 | APO-A1, human, recombinant | Recombinant Human Apolipoprotein A1 | 100 µg | 249.00 |
| PROC60017 | APO-E2, human, recombinant | Recombinant Human Apolipoprotein E2 | 500 µg | 199.00 |
| PROC60018 | APO-E3, human, recombinant | Recombinant Human Apolipoprotein E3 | 500 µg | 199.00 |
| PROC60019 | APO-E4, human, recombinant | Recombinant Human Apolipoprotein E4 | 500 µg | 199.00 |
| PROC68302 | Apo-SAA, human, recombinant | Recombinant Human Apolipoprotein Serum Amyloid A | 50 µg | 199.00 |
| PROC60030 | Artemin, human, recombinant | Recombinant Human Artemin | 10 µg | 199.00 |
| PROC63755 | BAFF, human, recombinant | Recombinant Human B-cell Activating Factor (BlyS) belonging to the TNF Family | 20 µg | 199.00 |
| PROC63758 | BAFF-R, human, recombinant | Recombinant Human B-cell Activating Factor (BlyS) Receptor belonging to the TNF Family | 10 µg | 199.00 |
| PROC65240 | BCA-1 (BLC, CXCL13), human, recombinant | Recombinant Human B-cell Attracting Chemokine 1 (BLC, CXCL13) | 20 µg | 249.00 |
| PROC66570 | BCMA, human, recombinant | Recombinant Human B-cell Maturation Protein | 20 µg | 249.00 |
| PROC65251 | BD-1 (36 aa), human, recombinant | Recombinant Human beta-Defensin 1 (36 aa variant) | 20 µg | 249.00 |
| PROC65254 | BD-1 (47 aa), human, recombinant | Recombinant Human beta-Defensin 1 (47 aa variant) | 20 µg | 199.00 |
| PROC65250 | BD-2, human, recombinant | Recombinant Human beta-Defensin 2 | 20 µg | 199.00 |
| PROC65258 | BD-3, human, recombinant | Recombinant Human beta-Defensin 3 | 20 µg | 249.00 |
| PROC65260 | BD-4, human, recombinant | Recombinant Human beta-Defensin 4 | 20 µg | 199.00 |
| PROC66212 | BDNF, human, recombinant | Recombinant Human Brain Derived Neurotrophic Factor | 10 µg | 199.00 |
| PROC66130 | beta-NGF, human, recombinant (CHO) | Recombinant Human Nerve Growth Factor beta (CHO cell-derived) | 20 µg | 199.00 |
| PROC67340 | BMP-13 (CDMP-2), human, recombinant | Recombinant Human Bone Morphogenetic Protein 13 (CDMP-2) | 50 µg | 199.00 |
| PROC67344 | BMP-14 (CDMP-1), human, recombinant | Recombinant Human Bone Morphogenetic Protein 14 (CDMP-1) | 50 µg | 199.00 |
| PROC67310 | BMP-2, human, recombinant | Recombinant Human Bone Morphogenetic Protein 2 | 10 µg | 199.00 |
| PROC67314 | BMP-4, human, recombinant | Recombinant Human Bone Morphogenetic Protein 4 | 10 µg | 199.00 |
| PROC67316 | BMP-6, human, recombinant | Recombinant Human Bone Morphogenetic Protein 6 | 10 µg | 199.00 |
| PROC67318 | BMP-7, human, recombinant | Recombinant Human Bone Morphogenetic Protein 7 | 10 µg | 199.00 |
| PROC60065 | BNP, human, recombinant | Recombinant Human B-type Natriuretic Protein | 10 µg | 199.00 |
| PROC66580 | BRAK (CXCL14), human, recombinant | Recombinant Human Human Breast and Kidney Chemokine (CXCL14) | 20 µg | 249.00 |
| PROC60510 | BTC, human, recombinant | Recombinant Human Betacellulin | 20 µg | 199.00 |
| PROC67410 | Cardiotrophin-1 (CT-1), human, recombinant | Recombinant Human Cardiotrophin-1 (CT-1) | 10 µg | 199.00 |
| PROC60058 | sCD105 (Endoglin), human, recombinant (Sf9) | Recombinant Human soluble CD105 (Endoglin; Sf9 insect cell-derived) | 25 µg | 399.00 |
| PROC63318 | CD11b, human, recombinant | Recombinant Human CD11b | 2 µg | 249.00 |
| PROC63324 | CD14, human, recombinant (CHO) | Recombinant Human CD14 (CHO cell-derived) | 2 µg | 249.00 |

CYTOKINES, CHEMOKINES AND GROWTH FACTORS

HUMAN RECOMBINANT (Cont'd)

| Product Number | Product Name | Description | Pkg Size | Price |
|----------------|---|--|----------|----------|
| PROC63369 | CD146, human, recombinant | Recombinant Human CD146 | 2 µg | \$249.00 |
| PROC63372 | CD147, human, recombinant | Recombinant Human CD147 | 2 µg | 249.00 |
| PROC63396 | CD152 (CTLA-4), human, recombinant | Recombinant Human CD152 (Cytotoxic T-lymphocyte-Associated Antigen 4) | 50 µg | 199.00 |
| PROC63300 | CD1A, human, recombinant | Recombinant Human CD1A | 2 µg | 249.00 |
| PROC63303 | CD2, human, recombinant | Recombinant Human CD2 | 2 µg | 249.00 |
| PROC63095 | CD22, human, recombinant (CHO) | Recombinant Human CD22 (CHO cell-derived) | 20 µg | 249.00 |
| PROC63330 | CD23, human, recombinant | Recombinant Human CD23 | 2 µg | 249.00 |
| PROC63336 | CD29, human, recombinant | Recombinant Human CD29 | 2 µg | 249.00 |
| PROC63339 | CD31, human, recombinant | Recombinant Human CD31 | 2 µg | 249.00 |
| PROC63342 | CD34, human, recombinant | Recombinant Human CD34 | 2 µg | 249.00 |
| PROC60056 | sCD4, human, recombinant | Recombinant Human soluble CD4 | 10 µg | 199.00 |
| PROC63100 | sCD40 Ligand (CD154), human, recombinant | Recombinant Human soluble CD40 Ligand (TRAP, CD154) | 50 µg | 199.00 |
| PROC63348 | CD43, human, recombinant | Recombinant Human CD43 | 2 µg | 249.00 |
| PROC63351 | CD45, human, recombinant | Recombinant Human CD45 | 2 µg | 249.00 |
| PROC63354 | CD52, human, recombinant | Recombinant Human CD52 | 2 µg | 249.00 |
| PROC63357 | CD56, human, recombinant | Recombinant Human CD56 | 2 µg | 249.00 |
| PROC63360 | CD68, human, recombinant | Recombinant Human CD68 | 2 µg | 249.00 |
| PROC63363 | CD72, human, recombinant | Recombinant Human CD72 | 2 µg | 249.00 |
| PROC63312 | CD9, human, recombinant | Recombinant Human CD9 | 2 µg | 249.00 |
| PROC63366 | CD99, human, recombinant | Recombinant Human CD99 | 2 µg | 249.00 |
| PROC66210 | CNTF, human, recombinant | Recombinant Human Ciliary Neurotrophic Factor | 20 µg | 199.00 |
| PROC66200 | CRP, human, recombinant | Recombinant Human C-Reactive Protein | 1 mg | 349.00 |
| PROC66590 | CTACK (CCL27), human, recombinant | Recombinant Human Cutaneous T-cell Attracting Chemokine (CCL27) | 20 µg | 249.00 |
| PROC68016 | CTGF (182-250 aa, His), human, recombinant | Recombinant Human Connective Tissue Growth Factor (182-250 aa variant; His-tagged) | 20 µg | 199.00 |
| PROC68015 | CTGF (His), human, recombinant | Recombinant Human Connective Tissue Growth Factor (His-tagged) | 10 µg | 199.00 |
| PROC68014 | CTGF, human, recombinant | Recombinant Human Connective Tissue Growth Factor (98 aa variant) | 20 µg | 199.00 |
| PROC68018 | CTGFL (WISP-2), human, recombinant | Recombinant Human Connective Tissue Growth Factor Like Protein (WISP-2) | 20 µg | 249.00 |
| PROC66610 | CXCL16, human, recombinant | Recombinant Human CXC Ligand 16 | 25 µg | 249.00 |
| PROC63398 | CYR61, human, recombinant | Recombinant Human Cysteine-rich Angiogenic Inducer 61 | 20 µg | 249.00 |
| PROC68320 | DKK-1, human, recombinant | Recombinant Human Dickkopf-Related Protein-1 | 10 µg | 249.00 |
| PROC68040 | sDLL-4, human, recombinant | Recombinant Human soluble Delta-like Protein 4 | 25 µg | 249.00 |
| PROC67345 | sBMPR-1A, human, recombinant (Sf9) | Recombinant Human soluble Bone Morphogenetic Protein Receptor 1A (Sf9 insect cell-derived) | 100 µg | 399.00 |
| PROC69217 | E-selectin, human, recombinant | Recombinant Human E-selectin | 10 µg | 199.00 |
| PROC64413 | EG-VEGF, human, recombinant | Recombinant Human Vascular Endothelial Cell Growth Factor-EG | 20 µg | 199.00 |
| PROC60170 | EGF, human, recombinant (E. coli) | Recombinant Human Epidermal Growth Factor (E. coli-derived) | 500 µg | 199.00 |
| PROC60182 | EGF, human, recombinant (Pichia) | Recombinant Human Epidermal Growth Factor (Pichia-derived) | 500 µg | 199.00 |
| PROC65390 | EMAP-II, human, recombinant | Recombinant Human Endothelial/Monocyte Activating Polypeptide II | 20 µg | 199.00 |
| PROC65230 | ENA-78, human, recombinant | Recombinant Human Epithelial Neutrophil Activating Peptide-78 | 20 µg | 199.00 |
| PROC68305 | Endostatin, human, recombinant | Recombinant Human Endostatin | 100 µg | 199.00 |
| PROC65321 | Eotaxin (CCL11), human, recombinant | Recombinant Human Eotaxin (CCL11) | 20 µg | 199.00 |
| PROC65330 | Eotaxin-2 (CCL24), human, recombinant | Recombinant Human Eotaxin 2 (CCL24) | 20 µg | 249.00 |
| PROC65340 | Eotaxin-3 (CCL26), human, recombinant | Recombinant Human Eotaxin 3 (CCL26) | 20 µg | 249.00 |
| PROC68380 | Epigen, human, recombinant | Recombinant Human Epigen | 25 µg | 249.00 |
| PROC68382 | Epiregulin, human, recombinant | Recombinant Human Epiregulin | 25 µg | 249.00 |
| PROC60022 | EPO-alpha, human, recombinant | Recombinant Human Erythropoietin alpha | 50 µg | 199.00 |
| PROC60025 | EPO-beta, human, recombinant | Recombinant Human Erythropoietin beta | 500 IU | 199.00 |
| PROC66512 | Exodus-2, human, recombinant | Recombinant Human Exodus 2 | 20 µg | 199.00 |
| PROC60340 | FGF-1 (FGF-a), human, recombinant (E. coli) | Recombinant Human acidic Fibroblast Growth Factor (FGF-1; E. coli-derived) | 50 µg | 199.00 |
| PROC60343 | FGF-1 (FGF-a), human, recombinant (Sf9) | Recombinant Human acidic Fibroblast Growth Factor (FGF-1; Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC60415 | FGF-10, human, recombinant | Recombinant Human Fibroblast Growth Factor 10 | 25 µg | 249.00 |
| PROC60460 | FGF-16, human, recombinant | Recombinant Human Fibroblast Growth Factor 16 | 25 µg | 249.00 |
| PROC60470 | FGF-17, human, recombinant | Recombinant Human Fibroblast Growth Factor 17 | 25 µg | 249.00 |
| PROC60480 | FGF-18, human, recombinant | Recombinant Human Fibroblast Growth Factor 18 | 25 µg | 249.00 |
| PROC60490 | FGF-19, human, recombinant | Recombinant Human Fibroblast Growth Factor 19 | 25 µg | 249.00 |
| PROC60240 | FGF-2 (FGF-b), human, recombinant | Recombinant Human basic Fibroblast Growth Factor (FGF-2) | 50 µg | 199.00 |
| PROC60243 | FGF-2 (FGF-b, 147 aa), human, recombinant | Recombinant Human basic Fibroblast Growth Factor (FGF-2, 147 aa variant) | 50 µg | 199.00 |
| PROC60492 | FGF-20, human, recombinant | Recombinant Human Fibroblast Growth Factor 20 | 15 µg | 249.00 |
| PROC60494 | FGF-21, human, recombinant | Recombinant Human Fibroblast Growth Factor 21 | 20 µg | 199.00 |
| PROC60498 | FGF-22, human, recombinant | Recombinant Human Fibroblast Growth Factor 22 | 10 µg | 199.00 |
| PROC60345 | FGF-4, human, recombinant | Recombinant Human Fibroblast Growth Factor 4 | 25 µg | 249.00 |
| PROC60350 | FGF-5, human, recombinant | Recombinant Human Fibroblast Growth Factor 5 | 50 µg | 249.00 |
| PROC60360 | FGF-6, human, recombinant | Recombinant Human Fibroblast Growth Factor 6 | 25 µg | 249.00 |
| PROC60380 | FGF-8, human, recombinant | Recombinant Human Fibroblast Growth Factor 8 | 25 µg | 249.00 |
| PROC60390 | FGF-9, human, recombinant (Sf9) | Recombinant Human Fibroblast Growth Factor 9 (Sf9 insect cell-derived) | 20 µg | 199.00 |
| PROC67110 | flt-3 Ligand, human, recombinant (E. coli) | Recombinant Human flt3 Ligand (E. coli-derived) | 10 µg | 199.00 |
| PROC67113 | flt-3 Ligand, human, recombinant (Sf9) | Recombinant Human flt3 Ligand (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC67510 | Fractalkine (CX3CL1), human, recombinant | Recombinant Human Fractalkine (CX3CL1) | 20 µg | 199.00 |
| PROC60040 | FST, human, recombinant | Recombinant Human Follistatin | 20 µg | 199.00 |
| PROC60437 | G-CSF, human, recombinant (CHO) | Recombinant Human Granulocyte Colony Stimulating Factor (CHO cell-derived) | 10 µg | 199.00 |
| PROC60434 | G-CSF, human, recombinant (E. coli) | Recombinant Human Granulocyte Colony Stimulating Factor (E. coli-derived) | 10 µg | 199.00 |
| PROC66630 | gAcrp30 (Adipolean), human, recombinant | Recombinant Human globular Acrp30 (Adipolean) | 25 µg | 199.00 |
| PROC67953 | Galectin-1, human, recombinant | Recombinant Human Galectin 1 | 50 µg | 199.00 |
| PROC67958 | Galectin-3, human, recombinant | Recombinant Human Galectin 3 | 50 µg | 199.00 |
| PROC67610 | GCP-2 (CXCL6), human, recombinant | Recombinant Human Human Granulocyte Chemotactic Peptide 2 (CXCL6) | 20 µg | 249.00 |
| PROC67328 | GDF-11, human, recombinant | Recombinant Human Growth & Differentiation Factor 11 | 20 µg | 249.00 |
| PROC67329 | GDF-15 (MIC-1), human, recombinant | Recombinant Human Growth & Differentiation Factor 15 (MIC-1) | 20 µg | 249.00 |
| PROC67323 | GDF-3, human, recombinant | Recombinant Human Growth & Differentiation Factor 3 | 20 µg | 249.00 |
| PROC67330 | GDF-5, human, recombinant | Recombinant Human Growth & Differentiation Factor 5 | 10 µg | 199.00 |
| PROC67333 | GDF-8, human, recombinant | Recombinant Human Growth & Differentiation Factor 8 (Myostatin Propeptide) | 25 µg | 199.00 |
| PROC66312 | GDNF, human, recombinant | Recombinant Human Glial Derived Neurotrophic Factor | 10 µg | 199.00 |
| PROC67336 | GH-20K-pit, human, recombinant | Recombinant Human Pituitary Growth Hormone 20K | 100 µg | 349.00 |
| PROC67337 | GH-20K-pl, human, recombinant | Recombinant Human Placental Growth Hormone 20K | 100 µg | 349.00 |
| PROC67339 | GH-22K-pl, human, recombinant | Recombinant Human Placental Growth Hormone 22K | 100 µg | 349.00 |

CYTOKINES, CHEMOKINES AND GROWTH FACTORS

HUMAN RECOMBINANT (Cont'd)

| Product Number | Product Name | Description | Pkg Size | Price |
|----------------|---|--|----------|----------|
| PROC67338 | GHBP, human, recombinant | Recombinant Human Growth Hormone Binding Protein | 100 µg | \$349.00 |
| PROC60420 | GM-CSF, human, recombinant (E. coli) | Recombinant Human Granulocyte/Macrophage Colony Stimulating Factor (E. coli-derived) | 10 µg | 199.00 |
| PROC60426 | GM-CSF, human, recombinant (Sf9) | Recombinant Human Granulocyte/Macrophage Colony Stimulating Factor (Sf9 insect cell-derived) | 20 µg | 399.00 |
| PROC60428 | GM-CSF/IL-3 FP, human, recombinant (Sf9) | Recombinant Human Granulocyte/Macrophage Colony Stimulating Factor/IL-3 Fusion Protein (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC60432 | GMF-beta, human, recombinant | Recombinant Human Glia Maturation Factor beta | 10 µg | 249.00 |
| PROC65430 | GRO-alpha (MGSA, CXCL1), human, recombinant | Recombinant Human Growth Regulated Oncogene alpha (Melanoma Growth Stimulating Activity, CXCL1) | 25 µg | 199.00 |
| PROC65440 | GRO-beta (MIP-2, CXCL2), human, recombinant | Recombinant Human Growth Regulated Oncogene beta (CXCL2) | 10 µg | 199.00 |
| PROC65450 | GRO-gamma (CXCL3), human, recombinant | Recombinant Human Growth Regulated Oncogene gamma (CXCL3) | 10 µg | 199.00 |
| PROC67335 | Growth Hormone (GH), human, recombinant | Recombinant Human Growth Hormone (GH) | 100 µg | 199.00 |
| PROC667712 | HCC-1 (66 aa, CCL14), human, recombinant | Recombinant Human Hemofiltrate CC-Chemokine 1 (66 aa variant, CCL14) | 10 µg | 249.00 |
| PROC67710 | HCC-1 (72 aa, CCL14), human, recombinant | Recombinant Human Hemofiltrate CC-Chemokine 1 (72 aa variant, CCL14) | 10 µg | 249.00 |
| PROC64530 | HGF, human, recombinant | Recombinant Human Hepatocyte Growth Factor | 10 µg | 199.00 |
| PROC68115 | HVEM/Fc, human, recombinant | Recombinant Human Herpes Virus Entry Mediator (Fc Chimera) | 100 µg | 249.00 |
| PROC60185 | sEGF-R, human, recombinant | Recombinant Human soluble Epidermal Growth Factor Receptor | 25 µg | 499.00 |
| PROC66620 | sFas Ligand, human, recombinant | Recombinant Human soluble Fas Ligand | 10 µg | 249.00 |
| PROC66623 | sFas Receptor (CD95), human, recombinant | Recombinant Human soluble Fas Receptor (CD95, TNFRSF6) | 20 µg | 249.00 |
| PROC60450 | sFGFR-1/Fc, human, recombinant (Sf9) | Recombinant Human soluble Fibroblast Growth Factor Receptor 1a (IIIc) / Fc-Chimera (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC60451 | sFGFR-2/Fc, human, recombinant (Sf9) | Recombinant Human soluble Fibroblast Growth Factor Receptor 2a (IIIc) / Fc-Chimera (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC60452 | sFGFR-3/Fc, human, recombinant (Sf9) | Recombinant Human soluble Fibroblast Growth Factor Receptor 3a (IIIc) / Fc-Chimera (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC60453 | sFGFR-4/Fc, human, recombinant (Sf9) | Recombinant Human soluble Fibroblast Growth Factor Receptor 4 (IIIc) / Fc-Chimera (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC65270 | sFRP-1, human, recombinant | Recombinant Human Secreted Frizzled Related Protein 1 | 20 µg | 249.00 |
| PROC67810 | I-309 (CCL1), human, recombinant | Recombinant Human I-309 (CCL1) | 10 µg | 199.00 |
| PROC67820 | I-TAC (CXCL11), human, recombinant | Recombinant Human Interferon-inducible T-cell alpha Chemoattractant (CXCL11) | 20 µg | 199.00 |
| PROC60579 | IFN-alpha 1b, human, recombinant (E. coli) | Recombinant Human Interferon alpha-1b (E. coli-derived) | 100 µg | 199.00 |
| PROC60580 | IFN-alpha 2a, human, recombinant (E. coli) | Recombinant Human Interferon alpha-2a (E. coli-derived) | 100 µg | 199.00 |
| PROC60581 | IFN-alpha 2b, human, recombinant (E. coli) | Recombinant Human Interferon alpha-2b (E. coli-derived) | 100 µg | 199.00 |
| PROC60582 | IFN-alpha 2b, human, recombinant (Yeast) | Recombinant Human Interferon alpha-2b (yeast-derived, glycosylated) | 50 µg | 199.00 |
| PROC60591 | IFN-beta 1a, human, recombinant (CHO) | Recombinant Human Interferon beta-1a (CHO cell-derived) | 10 µg | 199.00 |
| PROC60590 | IFN-beta 1b, human, recombinant (E. coli) | Recombinant Human Interferon beta-1b (E. coli-derived) | 10 µg | 199.00 |
| PROC60724 | IFN-gamma, human, recombinant | Recombinant Human Interferon gamma | 100 µg | 199.00 |
| PROC60730 | IFN-lambda-1 (IL-29), human, recombinant | Recombinant Human Interferon lambda-1 (IL-29) | 20 µg | 249.00 |
| PROC60732 | IFN-lambda-2 (IL-28A), human, recombinant | Recombinant Human Interferon lambda-2 (IL-28A) | 20 µg | 249.00 |
| PROC60842 | IGF-BP1, human, recombinant | Recombinant Human Insulin Like Growth Factor Binding Protein 1 | 20 µg | 199.00 |
| PROC60845 | IGF-BP2, human, recombinant | Recombinant Human Insulin Like Growth Factor Binding Protein 2 | 20 µg | 249.00 |
| PROC60848 | IGF-BP3, human, recombinant | Recombinant Human Insulin Like Growth Factor Binding Protein 3 | 25 µg | 199.00 |
| PROC60849 | IGF-BP4, human, recombinant | Recombinant Human Insulin Like Growth Factor Binding Protein 4 | 20 µg | 249.00 |
| PROC60850 | IGF-BP5, human, recombinant | Recombinant Human Insulin Like Growth Factor Binding Protein 5 | 25 µg | 199.00 |
| PROC60853 | IGF-BP6, human, recombinant | Recombinant Human Insulin Like Growth Factor Binding Protein 6 | 20 µg | 199.00 |
| PROC60855 | IGF-BP7, human, recombinant | Recombinant Human Insulin Like Growth Factor Binding Protein 7 | 25 µg | 249.00 |
| PROC60840 | IGF-I, human, recombinant | Recombinant Human Insulin Like Growth Factor I | 100 µg | 199.00 |
| PROC60960 | IGF-II, human, recombinant | Recombinant Human Insulin Like Growth Factor II | 50 µg | 199.00 |
| PROC60841 | IGF-IR, human, recombinant | Recombinant Human Insulin-Like Growth Factor I Receptor | 5 µg | 399.00 |
| PROC61112 | IL-1 alpha, human, recombinant | Recombinant Human Interleukin 1-alpha | 10 µg | 199.00 |
| PROC61120 | IL-1 beta, human, recombinant | Recombinant Human Interleukin 1-beta | 10 µg | 199.00 |
| PROC61122 | IL-1 RA, human, recombinant | Recombinant Human Interleukin 1 Receptor Antagonist | 10 µg | 199.00 |
| PROC62015 | IL-10, human, recombinant (CHO) | Recombinant Human Interleukin 10 (CHO cell-derived) | 10 µg | 199.00 |
| PROC62012 | IL-10, human, recombinant (E. coli) | Recombinant Human Interleukin 10 (E. coli-derived) | 10 µg | 199.00 |
| PROC62120 | IL-11, human, recombinant | Recombinant Human Interleukin 11 | 10 µg | 199.00 |
| PROC62212 | IL-12, human, recombinant | Recombinant Human Interleukin 12 | 10 µg | 199.00 |
| PROC62215 | IL-12-p40, human, recombinant (CHO) | Recombinant Human Interleukin 12-p40 (CHO cell-derived) | 10 µg | 249.00 |
| PROC62218 | IL-12-p80, human, recombinant (CHO) | Recombinant Human Interleukin 12-p80 (CHO cell-derived) | 10 µg | 249.00 |
| PROC62314 | IL-13 (variant), human, recombinant | Recombinant Human Interleukin 13 (Variant) | 10 µg | 249.00 |
| PROC62312 | IL-13, human, recombinant | Recombinant Human Interleukin 13 | 10 µg | 199.00 |
| PROC62512 | IL-15, human, recombinant | Recombinant Human Interleukin 15 | 10 µg | 199.00 |
| PROC62611 | IL-16 (121 aa), human, recombinant | Recombinant Human Interleukin 16 (121 aa variant) | 10 µg | 249.00 |
| PROC62613 | IL-16 (130 aa), human, recombinant | Recombinant Human Interleukin 16 (130 aa variant) | 10 µg | 249.00 |
| PROC62710 | IL-17, human, recombinant | Recombinant Human Interleukin 17A | 25 µg | 199.00 |
| PROC62712 | IL-17B, human, recombinant | Recombinant Human Interleukin 17B | 25 µg | 249.00 |
| PROC62714 | IL-17D, human, recombinant | Recombinant Human Interleukin 17D | 25 µg | 249.00 |
| PROC62715 | IL-17E, human, recombinant | Recombinant Human Interleukin 17E | 25 µg | 249.00 |
| PROC62718 | IL-17F, human, recombinant | Recombinant Human Interleukin 17F | 25 µg | 249.00 |
| PROC62910 | IL-19, human, recombinant | Recombinant Human Interleukin 19 | 10 µg | 199.00 |
| PROC61240 | IL-2, human, recombinant | Recombinant Human Interleukin 2 | 50 µg | 199.00 |
| PROC62920 | IL-20, human, recombinant | Recombinant Human Interleukin 20 | 10 µg | 199.00 |
| PROC62921 | IL-21, human, recombinant | Recombinant Human Interleukin 21 | 10 µg | 199.00 |
| PROC62922 | IL-22, human, recombinant | Recombinant Human Interleukin 22 | 10 µg | 199.00 |
| PROC62928 | IL-24, human, recombinant | Recombinant Human Interleukin 24 | 10 µg | 199.00 |
| PROC61301 | IL-3 CC, human, recombinant | Recombinant Human Interleukin 3 (for Cell Culture) | ~ 30 µg | 199.00 |
| PROC61320 | IL-3, human, recombinant (E. coli) | Recombinant Human Interleukin 3 (E. coli-derived) | 10 µg | 199.00 |
| PROC61330 | IL-3, human, recombinant (E. coli) | Recombinant Human Interleukin 3 (E. coli-derived) | 25 µg | 399.00 |
| PROC61325 | IL-3, human, recombinant (Sf9) | Recombinant Human Interleukin 3 (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC62950 | IL-31, human, recombinant | Recombinant Human Interleukin 31 | 10 µg | 249.00 |
| PROC62953 | IL-32-alpha, human, recombinant | Recombinant Human Interleukin 32 alpha | 10 µg | 249.00 |
| PROC62958 | IL-33, human, recombinant | Recombinant Human Interleukin 33 | 10 µg | 199.00 |
| PROC61401 | IL-4 CC, human, recombinant | Recombinant Human Interleukin 4 for (for Cell Culture) | ~ 5 µg | 199.00 |
| PROC61450 | IL-4, human, recombinant (CHO) | Recombinant Human Interleukin 4 (CHO cell-derived) | 10 µg | 199.00 |
| PROC61420 | IL-4, human, recombinant (E. coli) | Recombinant Human Interleukin 4 (E. coli-derived) | 10 µg | 199.00 |
| PROC61520 | IL-5, human, recombinant | Recombinant Human Interleukin 5 | 10 µg | 199.00 |
| PROC61601 | IL-6 CC, human, recombinant | Recombinant Human Interleukin 6 (for Cell Culture) | ~ 10 µg | 199.00 |
| PROC61640 | IL-6, human, recombinant (CHO) | Recombinant Human Interleukin 6 (CHO cell-derived) | 10 µg | 199.00 |
| PROC61625 | IL-6, human, recombinant (E. coli) | Recombinant Human Interleukin 6 (E. coli-derived) | 20 µg | 199.00 |
| PROC61712 | IL-7, human, recombinant (E. coli) | Recombinant Human Interleukin 7 (E. coli-derived) | 10 µg | 199.00 |
| PROC61715 | IL-7, human, recombinant (Yeast) | Recombinant Human Interleukin 7 (yeast-derived) | 10 µg | 199.00 |
| PROC61831 | IL-8 (CXCL8, 72 aa), human, recombinant | Recombinant Human Interleukin 8 (CXCL8, 72 aa variant) | 25 µg | 199.00 |
| PROC61830 | IL-8 (CXCL8, 77 aa), human, recombinant | Recombinant Human Interleukin 8 (CXCL8, 77 aa variant) | 20 µg | 199.00 |
| PROC61920 | IL-9, human, recombinant | Recombinant Human Interleukin 9 | 10 µg | 199.00 |

CYTOKINES, CHEMOKINES AND GROWTH FACTORS

HUMAN RECOMBINANT (Cont'd)

| Product Number | Product Name | Description | Pkg Size | Price |
|----------------|---|--|-----------|----------|
| PROC60212 | Insulin, human, recombinant | Recombinant Human Insulin | 25 mg | \$199.00 |
| PROC65520 | IP-10 (CXCL10), human, recombinant | Recombinant Human IFN Inducible Protein 10 (CXCL10) | 25 µg | 199.00 |
| PROC63820 | KGF (FGF-7), human, recombinant | Recombinant Human Keratinocyte Growth Factor (FGF-7) | 10 µg | 199.00 |
| PROC63823 | KGF-2, human, recombinant | Recombinant Human Keratinocyte Growth Factor 2 | 25 µg | 199.00 |
| PROC69220 | L-selectin, human, recombinant | Recombinant Human L-selectin | 10 µg | 199.00 |
| PROC65842 | LAG-1 (CCL4L1), human, recombinant | Recombinant Human Lymphocyte Activation Gene 1 (CCL4L1) | 20 µg | 249.00 |
| PROC65840 | LD78 beta (CCL3L1), human, recombinant | Recombinant Human LD78 beta (CCL3L1) | 20 µg | 249.00 |
| PROC67830 | LEC (NCC-4), human, recombinant | Recombinant Human Liver-Expressed Chemokine (NCC-4) | 20 µg | 249.00 |
| PROC68232 | Leptin, human, recombinant | Recombinant Human Leptin (Anti-Obesity Protein) | 1 mg | 199.00 |
| PROC67515 | LeukinFeron, human, native | Human LeukinFeron | 10,000 IU | 199.00 |
| PROC65400 | LFA-3, human, recombinant | Recombinant Human Leukocyte Function Associated Antigen 3, Fusion Protein | 100 µg | 199.00 |
| PROC66720 | LIGHT, human, recombinant | Recombinant Human LIGHT | 15 µg | 249.00 |
| PROC65620 | Lymphotactin, human, recombinant | Recombinant Human Lymphotactin | 10 µg | 199.00 |
| PROC63333 | sIL-2R alpha (CD25), human, recombinant | Recombinant Human soluble Interleukin 2 Receptor alpha (CD25) | 25 µg | 199.00 |
| PROC61422 | sIL-4 Receptor (CD124), human, recombinant | Recombinant Human Soluble Interleukin 4 Receptor alpha (CD124) | 15 µg | 249.00 |
| PROC61631 | sIL-6 Receptor (CD126), human, recombinant | Recombinant Human soluble Interleukin 6 Receptor (CD126) | 20 µg | 199.00 |
| PROC67355 | sLYVE-1, human, recombinant (Sf9) | Recombinant Human Lymphatic Vessel Endothelial Hyaluronan Receptor 1 (Sf9 insect cell-derived) | 25 µg | 399.00 |
| PROC60442 | M-CSF, human, recombinant | Recombinant Human Macrophage Colony Stimulating Factor | 10 µg | 199.00 |
| PROC65630 | Maspin, human, recombinant | Recombinant Human Maspin | 20 µg | 249.00 |
| PROC64030 | MCP-1 (MCAF, CCL2), human, recombinant | Recombinant Human Monocyte Chemotactic Protein 1 (MCAF, CCL2) | 20 µg | 199.00 |
| PROC65722 | MCP-2 (CCL8), human, recombinant | Recombinant Human Monocyte Chemotactic Protein 2 (CCL8) | 10 µg | 199.00 |
| PROC65723 | MCP-3 (CCL7), human, recombinant | Recombinant Human Monocyte Chemotactic Protein 3 (CCL7) | 10 µg | 199.00 |
| PROC65724 | MCP-4 (CCL13), human, recombinant | Recombinant Human Monocyte Chemotactic Protein 4 (CCL13) | 10 µg | 199.00 |
| PROC67910 | MDC (CCL22, 67 aa), human, recombinant | Recombinant Human Macrophage Derived Chemokine (67 amino acid variant) | 20 µg | 249.00 |
| PROC67920 | MDC (CCL22, 69 aa), human, recombinant | Recombinant Human Macrophage Derived Chemokine (69 amino acid variant) | 20 µg | 249.00 |
| PROC67940 | MEC (CCL28), human, recombinant | Recombinant Human Mucosae Associated Epithelial Chemokine (CCL28) | 20 µg | 249.00 |
| PROC65815 | MIA, human, recombinant | Recombinant Human Melanoma Inhibitory Activity Protein | 20 µg | 199.00 |
| PROC65818 | MIA-2, human, recombinant | Recombinant Human Melanoma Inhibitory Activity Protein 2 | 20 µg | 249.00 |
| PROC67950 | Midkine, human, recombinant | Recombinant Human Midkine | 20 µg | 249.00 |
| PROC65814 | MIF (active), human, recombinant | Recombinant Human Mesoderm Inducing Factor (active) | 10 µg | 199.00 |
| PROC65813 | MIF, human, recombinant | Recombinant Human Mesoderm Inducing Factor | 25 µg | 199.00 |
| PROC65811 | MIG (CXCL9), human, recombinant | Recombinant Human Monokine Induced by Interferon gamma (CXCL9) | 20 µg | 249.00 |
| PROC65833 | MIP-1 alpha (CCL3), human, recombinant | Recombinant Human Macrophage Inflammatory Protein 1-alpha (CCL3) | 20 µg | 249.00 |
| PROC65822 | MIP-1 beta (CCL4), human, recombinant | Recombinant Human Macrophage Inflammatory Protein 1-beta (CCL4) | 10 µg | 249.00 |
| PROC65860 | MIP-3 (CCL23), human, recombinant | Recombinant Human Macrophage Inflammatory Protein 3 (MPIF-1, CCL23) | 20 µg | 249.00 |
| PROC65866 | MIP-3 alpha (CCL20), human, recombinant | Recombinant Human Macrophage Inflammatory Protein 3-alpha (CCL20) | 20 µg | 249.00 |
| PROC65877 | MIP-3 beta (CCL19), human, recombinant | Recombinant Human Macrophage Inflammatory Protein 3-beta (CCL19) | 20 µg | 249.00 |
| PROC65888 | MIP-4 (CCL18), human, recombinant | Recombinant Human Macrophage Inflammatory Protein 4 (CCL18) | 10 µg | 199.00 |
| PROC65890 | MIP-5 (CCL15), human, recombinant | Recombinant Human Macrophage Inflammatory Protein 5 (CCL15) | 25 µg | 199.00 |
| PROC64104 | MMP-3, human, recombinant | Recombinant Human Matrix Metalloproteinase 3 | 20 µg | 199.00 |
| PROC64110 | MMP-7, human, recombinant | Recombinant Human Matrix Metalloproteinase 7 | 20 µg | 199.00 |
| PROC65920 | Myostatin, human, recombinant | Recombinant Human Myostatin | 10 µg | 199.00 |
| PROC64325 | Nanog, human, recombinant | Recombinant Human Nanog | 20 µg | 249.00 |
| PROC64320 | NAP-2 (CXCL7), human, recombinant | Recombinant Human Neutrophil Activating Protein 2 (CXCL7) | 10 µg | 199.00 |
| PROC67512 | Neuregulin-1 (NRG-1), human, recombinant | Recombinant Human Neuregulin 1 (NRG-1, Heregulin beta-2) | 50 µg | 199.00 |
| PROC60210 | Neuroglobin, human, recombinant | Recombinant Human Neuroglobin | 10 µg | 199.00 |
| PROC65265 | Neuroserpin, human, recombinant | Recombinant Human Neuroserpin | 25 µg | 249.00 |
| PROC68110 | Neurturin (NTN), human, recombinant | Recombinant Human Neurturin (NTN) | 20 µg | 249.00 |
| PROC66421 | NNT-1 (BCSF-3), human, recombinant | Recombinant Human Novel Neurotrophin 1 (BCSF-3) | 10 µg | 249.00 |
| PROC67351 | NOGGIN CC, human, recombinant | Recombinant Human NOGGIN (for Cell Culture) | 20 µg | 249.00 |
| PROC67350 | NOGGIN, human, recombinant | Recombinant Human NOGGIN (dimer) | 20 µg | 249.00 |
| PROC64335 | NOV, human, recombinant | Recombinant Human Nephroblastoma Overexpressed Gene | 20 µg | 249.00 |
| PROC64330 | NP-1, human, recombinant | Recombinant Human Neutrophil Peptide 1 (alpha-Defensin) | 20 µg | 249.00 |
| PROC66425 | NT-3, human, recombinant | Recombinant Human Neurotrophin 3 | 10 µg | 199.00 |
| PROC66426 | NT-4, human, recombinant | Recombinant Human Neurotrophin 4 | 10 µg | 199.00 |
| PROC65025 | Omentin, human, recombinant | Recombinant Human Omentin | 10 µg | 249.00 |
| PROC65020 | Oncostatin M, human, recombinant | Recombinant Human Oncostatin M | 10 µg | 249.00 |
| PROC63750 | OPG (OCIF), human, recombinant | Recombinant Human Osteoprotegerin (Osteoclastogenesis Inhibitory Factor) | 50 µg | 199.00 |
| PROC64342 | OTOR, human, recombinant | Recombinant Human Otoraplin | 20 µg | 249.00 |
| PROC64350 | OX40L, human, recombinant | Recombinant Human OX40 Ligand | 10 µg | 249.00 |
| PROC69222 | P-selectin, human, recombinant | Recombinant Human P-selectin | 10 µg | 199.00 |
| PROC65940 | PAF-AH, human, recombinant | Recombinant Human Platelet Activating Factor (Acetylhydrolase) | 20 µg | 249.00 |
| PROC63792 | PAI-2, human, recombinant | Recombinant Human Plasminogen Activator Inhibitor 2 | 10 µg | 249.00 |
| PROC63021 | PDGF-AA, human, recombinant | Recombinant Human Platelet Derived Growth Factor AA | 10 µg | 199.00 |
| PROC63020 | PDGF-AB, human, recombinant | Recombinant Human Platelet Derived Growth Factor AB | 10 µg | 199.00 |
| PROC63022 | PDGF-BB, human, recombinant (E. coli) | Recombinant Human Platelet Derived Growth Factor BB (E. coli-derived) | 10 µg | 199.00 |
| PROC63024 | PDGF-BB, human, recombinant (Yeast) | Recombinant Human Platelet Derived Growth Factor BB (yeast-derived) | 10 µg | 199.00 |
| PROC63026 | PDGF-CC, human, recombinant | Recombinant Human Platelet Derived Growth Factor CC | 20 µg | 249.00 |
| PROC63030 | PEDF, human, recombinant | Recombinant Human Pigment Epithelium Derived Factor | 20 µg | 249.00 |
| PROC60045 | Periostin, human, recombinant | Recombinant Human Periostin | 10 µg | 199.00 |
| PROC66320 | Persephin, human, recombinant | Recombinant Human Persephin | 20 µg | 249.00 |
| PROC65930 | PF-4 (CXCL4), human, recombinant | Recombinant Human Platelet Factor 4 (CXCL4) | 20 µg | 199.00 |
| PROC60080 | PGRN, human, recombinant | Recombinant Human Progranulin | 10 µg | 199.00 |
| PROC66640 | Pleiotrophin, human, recombinant | Recombinant Human Pleiotrophin | 20 µg | 199.00 |
| PROC66022 | PLGF-1, human, recombinant (E. coli) | Recombinant Human Placenta Growth Factor 1 (E. coli-derived) | 25 µg | 199.00 |
| PROC66021 | PLGF-1, human, recombinant (Sf9) | Recombinant Human Placenta Growth Factor 1 (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC66023 | PLGF-2, human, recombinant (E. coli) | Recombinant Human Placenta Growth Factor 2 (E. coli-derived) | 10 µg | 249.00 |
| PROC66020 | PLGF-2, human, recombinant (Sf9) | Recombinant Human Placenta Growth Factor 2 (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC66133 | Pro-NGF, human, recombinant | Recombinant Human Pro-Nerve Growth Factor | 10 µg | 199.00 |
| PROC67308 | ProBMP-2, human, recombinant | Recombinant Human Pro Bone Morphogenetic Protein 2 | 10 µg | 199.00 |
| PROC63035 | Prokinectin-2, human, recombinant | Recombinant Human Prokinectin 2 | 20 µg | 249.00 |
| PROC60038 | Prolactin Receptor (Prlr), human, recombinant | Recombinant Human Prolactin Receptor (Prlr) | 5 µg | 399.00 |
| PROC60035 | Prolactin, human, recombinant | Recombinant Human Prolactin | 50 µg | 199.00 |
| PROC67400 | Prox-1 (fragment), human, recombinant | Recombinant Human Prox-1 (fragment) | 5 µg | 199.00 |
| PROC66650 | PTHrP, human, recombinant | Recombinant Human Parathyroid Hormone-like Related Protein | 50 µg | 199.00 |
| PROC64130 | RANTES (CCL5), human, recombinant | Recombinant Human RANTES (CCL5) | 20 µg | 199.00 |
| PROC66674 | Relaxin-2, human, recombinant | Recombinant Human Relaxin 2 | 25 µg | 249.00 |

CYTOKINES, CHEMOKINES AND GROWTH FACTORS

HUMAN RECOMBINANT (Cont'd)

| Product Number | Product Name | Description | Pkg Size | Price |
|----------------|--|--|----------|----------|
| PROC66676 | Relaxin-3, human, recombinant | Recombinant Human Relaxin 3 | 25 µg | \$249.00 |
| PROC66665 | RELM beta, human, recombinant | Recombinant Human Resistin-like Molecule beta | 25 µg | 199.00 |
| PROC66670 | Resistin, human, recombinant | Recombinant Human Resistin | 25 µg | 199.00 |
| PROC63120 | SCF, human, recombinant (E. coli) | Recombinant Human Stem Cell Factor (E. coli-derived) | 10 µg | 199.00 |
| PROC63125 | SCF, human, recombinant (Sf9) | Recombinant Human Stem Cell Factor (Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC63130 | SCGF-alpha, human, recombinant | Recombinant Human Stem Cell Growth Factor alpha | 10 µg | 249.00 |
| PROC63140 | SCGF-beta, human, recombinant | Recombinant Human Stem Cell Growth Factor beta | 10 µg | 249.00 |
| PROC67220 | SDF-1 alpha (CXCL12), human, recombinant | Recombinant Human Stromal Cell Derived Factor 1-alpha (CXCL12) | 10 µg | 199.00 |
| PROC67320 | SDF-1 beta (CXCL12), human, recombinant | Recombinant Human Stromal Cell Derived Factor 1-beta (CXCL12) | 10 µg | 199.00 |
| PROC66680 | Shh, human, recombinant (InC) | Recombinant Human Sonic Hedge Hog (insect cell-derived) | 10 µg | 249.00 |
| PROC68322 | Slit2-N, human, recombinant | Recombinant Human Slit2-N | 10 µg | 249.00 |
| PROC63201 | sRANK Receptor, human, recombinant | Recombinant Human soluble Receptor Activator of NF-Kappa-B Receptor (TNFRSF11A) | 100 µg | 249.00 |
| PROC63200 | sRANKL, human, recombinant | Recombinant Human soluble Receptor Activator of NF-Kappa-B Ligand | 10 µg | 199.00 |
| PROC68025 | sTIE-1/Fc Chimera, human, recombinant (Sf9) | Recombinant Human soluble TIE-1/Fc Chimera (Sf9 insect cell-derived) | 20 µg | 199.00 |
| PROC68028 | sTIE-2/Fc Chimera, human, recombinant (Sf9) | Recombinant Human soluble TIE-2/Fc Chimera (Sf9 insect cell-derived) | 20 µg | 199.00 |
| PROC63725 | sTNF-R1 (CD120a), human, recombinant | Recombinant Human soluble Tumor Necrosis Factor Receptor Type I (CD120a) | 20 µg | 199.00 |
| PROC63760 | sTNF-R2 (CD120b), human, recombinant | Recombinant Human soluble Tumor Necrosis Factor Receptor Type II (CD120b) | 20 µg | 199.00 |
| PROC63601 | sTRAIL Receptor-1 (DR4), human, recombinant | Recombinant Human soluble TNF Related Apoptosis Inducing Ligand Receptor 1 (DR4) | 50 µg | 249.00 |
| PROC63602 | sTRAIL Receptor-2 (DR5), human, recombinant | Recombinant Human soluble TNF Related Apoptosis Inducing Ligand Receptor 2 (DR5) | 50 µg | 249.00 |
| PROC64430 | sVEGFR-1 (flt-1) D1-3, human, recombinant (Sf9) | Recombinant Human soluble Vascular Endothelial Growth Factor Receptor 1, Domain 1-3 (flt-1; Sf9 insect cell-derived) | 5 µg | 199.00 |
| PROC64440 | sVEGFR-1 (flt-1) D1-4, human, recombinant (Sf9) | Recombinant Human soluble Vascular Endothelial Growth Factor Receptor 1, Domain 1-4 (flt-1; Sf9 insect cell-derived) | 5 µg | 199.00 |
| PROC64450 | sVEGFR-1 (flt-1) D1-5, human, recombinant (Sf9) | Recombinant Human soluble Vascular Endothelial Growth Factor Receptor 1, Domain 1-5 (flt-1; Sf9 insect cell-derived) | 5 µg | 139.00 |
| PROC64465 | sVEGFR-1 (flt-1) D7-Fc, human, recombinant (Sf9) | Recombinant Human soluble Vascular Endothelial Growth Factor Receptor 1, Domain 1-7 (flt-1, Fc chimera; Sf9 insect cell-derived) | 10 µg | 99.00 |
| PROC64460 | sVEGFR-1 (flt-1, native), human, recombinant (Sf9) | Recombinant Human soluble Vascular Endothelial Growth Factor Receptor 1 (flt-1, native, Sf9 insect cell-derived) | 5 µg | 139.00 |
| PROC64425 | sVEGFR-1 (flt-1, native), human, recombinant (Sf9) | Recombinant Human soluble Vascular Endothelial Growth Factor Receptor 1 (flt-1, native, Sf9 insect cell-derived) | 20 µg | 199.00 |
| PROC64470 | sVEGFR-2 (sKDR) D1-D7, human, recombinant (Sf9) | Recombinant Human soluble Vascular Endothelial Growth Factor Receptor 2, Domain 1-7 (sKDR; Sf9 insect cell-derived) | 5 µg | 99.00 |
| PROC64472 | sVEGFR-2 (sKDR-Fc) D7, human, recombinant (Sf9) | Recombinant Human soluble Vascular Endothelial Growth Factor Receptor 2, Domain 1-7 (sKDR, Fc chimera; Sf9 insect cell-derived) | 10 µg | 120.00 |
| PROC64428 | sVEGFR-3 (flt-4), human, recombinant (Sf9) | Recombinant Human soluble Vascular Endothelial Growth Factor Receptor-3 (flt-4, native, Sf9 insect cell-derived) | 10 µg | 199.00 |
| PROC66690 | TAC1, human, recombinant | Recombinant Human Transmembrane Activator and CAML Interactor | 20 µg | 249.00 |
| PROC63620 | TAFA-2, human, recombinant | Recombinant Human TAFA 2 | 20 µg | 249.00 |
| PROC68010 | TARC (CCL17), human, recombinant | Recombinant Human Thymus and Activation Regulated Chemokine (CCL17) | 20 µg | 249.00 |
| PROC68020 | TECK (CCL25), human, recombinant | Recombinant Human Thymus Expressed Chemokine (CCL25) | 20 µg | 249.00 |
| PROC65050 | TFF-1, human, recombinant | Recombinant Human Trefoil Factor 1 | 20 µg | 199.00 |
| PROC65052 | TFF-2, human, recombinant | Recombinant Human Trefoil Factor 2 | 20 µg | 199.00 |
| PROC65053 | TFF-3, human, recombinant | Recombinant Human Trefoil Factor 3 | 20 µg | 199.00 |
| PROC63535 | TGF-alpha, human, recombinant | Recombinant Human Transforming Growth Factor alpha | 100 µg | 249.00 |
| PROC63501 | TGF-beta 1 (A293 cells), human, recombinant | Recombinant Human Transforming Growth Factor beta-1 (mammalian A293 cell-derived) | 5 µg | 249.00 |
| PROC63504 | TGF-beta 1, human, recombinant (CHO) | Recombinant Human Transforming Growth Factor beta-1 (CHO cell-derived) | 5 µg | 249.00 |
| PROC63502 | TGF-beta 2 (A293 cells), human, recombinant | Recombinant Human Transforming Growth Factor beta-2 (mammalian A293 cell-derived) | 5 µg | 249.00 |
| PROC63506 | TGF-beta 2, human, recombinant (Sf9) | Recombinant Human Transforming Growth Factor beta-2 (Sf9 insect cell-derived) | 5 µg | 249.00 |
| PROC63507 | TGF-beta 3, human, recombinant | Recombinant Human Transforming Growth Factor beta-3 | 10 µg | 199.00 |
| PROC68560 | TIMP-1, human, recombinant | Recombinant Human Tissue Inhibitor of Metalloproteinases 1 | 10 µg | 249.00 |
| PROC68562 | TIMP-2, human, recombinant | Recombinant Human Tissue Inhibitor of Metalloproteinases 2 | 10 µg | 249.00 |
| PROC65065 | TL-1A, human, recombinant | Recombinant Human TNF-like 1A (TNFSF15) | 20 µg | 249.00 |
| PROC68035 | TLR-3 (CD283), human, recombinant | Recombinant Human Toll-like Receptor 3 (CD283) | 25 µg | 249.00 |
| PROC63723 | TNF-alpha M, human, recombinant | Recombinant Human Tumor Necrosis Factor alpha, Mutant/Variant (151 aa variant) | 50 µg | 199.00 |
| PROC63722 | TNF-alpha, human, recombinant (E. coli) | Recombinant Human Tumor Necrosis Factor alpha (E. coli-derived) | 10 µg | 99.00 |
| PROC63719 | TNF-alpha, human, recombinant (E. coli) | Recombinant Human Tumor Necrosis Factor alpha (E. coli-derived) | 50 µg | 199.00 |
| PROC63721 | TNF-alpha, human, recombinant (Yeast) | Recombinant Human Tumor Necrosis Factor alpha (yeast-derived) | 50 µg | 199.00 |
| PROC63720 | TNF-alpha, human, recombinant (Yeast) | Recombinant Human Tumor Necrosis Factor alpha (yeast-derived) | 10 µg | 99.00 |
| PROC63731 | TNF-beta, human, recombinant | Recombinant Human Tumor Necrosis Factor beta | 20 µg | 199.00 |
| PROC63733 | TNF-beta, human, recombinant (InC) | Recombinant Human Tumor Necrosis Factor beta (insect cell-derived) | 20 µg | 249.00 |
| PROC63726 | TNF-Receptor Fusion Protein, human, recombinant | Recombinant Human Tumor Necrosis Factor Receptor Fusion Protein | 50 µg | 199.00 |
| PROC65114 | TPO, human, recombinant (CHO) | Recombinant Human Thrombopoietin (Mpl-ligand, MGDf, CHO cell-derived) | 10 µg | 199.00 |
| PROC65112 | TPO, human, recombinant (E. coli) | Recombinant Human Thrombopoietin (Mpl-ligand, MGDf; E. coli-derived) | 10 µg | 199.00 |
| PROC63600 | TRAIL (Apo2L), human, recombinant | Recombinant Human Tumor Necrosis Factor-Related Apoptosis Inducing Ligand | 50 µg | 199.00 |
| PROC63766 | TSG, human, recombinant | Recombinant Human Twisted Gastrulation Protein | 50 µg | 249.00 |
| PROC63770 | TSLP, human, recombinant | Recombinant Human Thymic Stromal Lymphopoietin | 10 µg | 249.00 |
| PROC63612 | TWEAK Receptor, human, recombinant | Recombinant Human TNF-Related Weak Inducer of Apoptosis Receptor | 25 µg | 249.00 |
| PROC63610 | TWEAK, human, recombinant | Recombinant Human TNF-Related Weak Inducer of Apoptosis | 25 µg | 199.00 |
| PROC68325 | Vaspin, human, recombinant | Recombinant Human Vaspin | 25 µg | 199.00 |
| PROC64410 | VEGF-121, human, recombinant | Recombinant Human Vascular Endothelial Cell Growth Factor 121 | 5 µg | 199.00 |
| PROC64409 | VEGF-121, human, recombinant (Sf9) | Recombinant Human Vascular Endothelial Cell Growth Factor 121 (Sf9-insect cell-derived) | 10 µg | 199.00 |
| PROC64418 | VEGF-145, human, recombinant (Sf9) | Recombinant Human Vascular Endothelial Cell Growth Factor 145 (Sf9-insect cell-derived) | 5 µg | 199.00 |
| PROC64424 | VEGF-165, human, recombinant (CHO) | Recombinant Human Vascular Endothelial Cell Growth Factor 165 (CHO cell-derived) | 10 µg | 199.00 |
| PROC64420 | VEGF-165, human, recombinant (E. coli) | Recombinant Human Vascular Endothelial Cell Growth Factor 165 (E. coli-derived) | 10 µg | 199.00 |
| PROC64423 | VEGF-165, human, recombinant (Sf9) | Recombinant Human Vascular Endothelial Cell Growth Factor 165 (Sf9-insect cell-derived) | 10 µg | 199.00 |
| PROC64415 | VEGF-189, human, recombinant | Recombinant Human Vascular Endothelial Cell Growth Factor 189 | 20 µg | 399.00 |
| PROC64411 | VEGF-B, human, recombinant | Recombinant Human Vascular Endothelial Cell Growth Factor B | 20 µg | 249.00 |
| PROC64412 | VEGF-C, human, recombinant | Recombinant Human Vascular Endothelial Cell Growth Factor C | 20 µg | 399.00 |
| PROC64416 | VEGF-E, Orv virus, recombinant | Recombinant Orv Virus Vascular Endothelial Cell Growth Factor E | 10 µg | 249.00 |
| PROC64480 | VEGF-I, human, recombinant | Recombinant Human Vascular Endothelial Cell Growth Factor Inhibitor | 10 µg | 199.00 |
| PROC68330 | Visfatin, human, recombinant | Recombinant Human Visfatin | 20 µg | 199.00 |
| PROC68310 | WISP-1, human, recombinant | Recombinant Human WNT-1-Inducible Signaling Pathway Protein 1 | 20 µg | 249.00 |
| PROC68312 | WISP-3, human, recombinant | Recombinant Human WNT-1-Inducible Signaling Pathway Protein 3 | 20 µg | 249.00 |
| PROC68316 | WNT-1, human, recombinant | Recombinant Human WNT-1 | 10 µg | 249.00 |

CYTOKINES, CHEMOKINES AND GROWTH FACTORS

MOUSE RECOMBINANT

| Product Number | Product Name | Description | Pkg Size | Price |
|----------------|---|--|----------|----------|
| PROD66629 | Acrp30, mouse, recombinant (E. coli) | Recombinant Mouse Adiponectin (Adipocyte Complement Related Protein of 30 kDa; E. coli-derived) | 25 µg | \$199.00 |
| PROD66628 | Acrp30, mouse, recombinant (HEK) | Recombinant Mouse Adiponectin (Adipocyte Complement Related Protein of 30 kDa, glycosylated; HEK cell-derived) | 10 µg | 199.00 |
| PROD63745 | APRIL, mouse, recombinant | Recombinant Mouse A Proliferation Inducing Ligand (TALL-2, TRDL-1a, TNFSF13)* | 20 µg | 249.00 |
| PROD65240 | BCA-1 (BLC, CXCL13), mouse, recombinant | Recombinant Mouse Human B-cell Attracting Chemokine 1 (CXCL13) | 20 µg | 249.00 |
| PROD66130 | beta-NGF, mouse, native | Mouse Nerve Growth Factor beta | 20 µg | 199.00 |
| PROD65330 | C-10 (CCL6), mouse, recombinant | Recombinant Mouse C-10 (CCL6) | 10 µg | 199.00 |
| PROD67410 | Cardiotrophin-1 (CT-1), mouse, recombinant | Recombinant Mouse Cardiotrophin-1 (CT-1) | 10 µg | 199.00 |
| PROD63324 | CD14, mouse, recombinant (CHO) | Recombinant Mouse CD14 (CHO cell-derived) | 2 µg | 199.00 |
| PROD65350 | CTACK (CCL27), mouse, recombinant | Recombinant Mouse Cuteaneous T-cell Attracting Chemokine (CCL27) | 20 µg | 249.00 |
| PROD66610 | CXCL16, mouse, recombinant | Recombinant Mouse CXC Ligand 16 | 25 µg | 249.00 |
| PROD60170 | EGF, mouse, recombinant | Recombinant Mouse Epidermal Growth Factor | 500 µg | 199.00 |
| PROD65320 | Eotaxin (CCL11), mouse, recombinant | Recombinant Mouse Eotaxin (CCL11) | 10 µg | 199.00 |
| PROD65332 | Eotaxin-2 (CCL24), mouse, recombinant | Recombinant Mouse Eotaxin 2 (CCL24) | 20 µg | 249.00 |
| PROD66512 | Exodus-2 (CCL21), mouse, recombinant | Recombinant Mouse Exodus-2 (CCL21) | 20 µg | 249.00 |
| PROD60340 | FGF-1 (FGF-a), mouse, recombinant | Recombinant Mouse acidic Fibroblast Growth Factor (FGF-1) | 50 µg | 249.00 |
| PROD60240 | FGF-2 (FGF-b), mouse, recombinant | Recombinant Mouse basic Fibroblast Growth Factor (FGF-2) | 10 µg | 199.00 |
| PROD60220 | FGF-9, mouse, recombinant | Recombinant Mouse Fibroblast Growth Factor 9 | 10 µg | 199.00 |
| PROD67110 | flt-3 Ligand, mouse, recombinant | Recombinant Mouse flt3 Ligand | 10 µg | 199.00 |
| PROD60431 | G-CSF, mouse, recombinant | Recombinant Mouse Granulocyte Colony Stimulating Factor | 10 µg | 199.00 |
| PROD66630 | gAcrp30, mouse, recombinant | Recombinant Mouse globular Acrp30 (Adipolean) | 10 µg | 199.00 |
| PROD66312 | GDNF, mouse, recombinant | Recombinant Mouse Glial Derived Neurotrophic Factor | 10 µg | 249.00 |
| PROD60420 | GM-CSF, mouse, recombinant | Recombinant Mouse Granulocyte/Macrophage Colony Stimulating Factor | 10 µg | 199.00 |
| PROD69156 | Granzyme B, mouse, recombinant | Recombinant Mouse Granzyme B | 10 µg | 249.00 |
| PROD66710 | I-TAC (CXCL11), mouse, recombinant | Recombinant Mouse Interferon-inducible T-cell alpha Chemoattractant (CXCL11) | 20 µg | 249.00 |
| PROD60724 | IFN-gamma, mouse, recombinant | Recombinant Mouse Interferon gamma | 100 µg | 199.00 |
| PROD60732 | IFN-lambda-2 (IL28A), mouse, recombinant | Recombinant Mouse Interferon lambda-2 (IL-28A) | 20 µg | 249.00 |
| PROD60840 | IGF-1, mouse, recombinant | Recombinant Mouse Insulin Like Growth Factor I | 50 µg | 199.00 |
| PROD61112 | IL-1 alpha, mouse, recombinant | Recombinant Mouse Interleukin 1-alpha | 10 µg | 199.00 |
| PROD61122 | IL-1 beta, mouse, recombinant | Recombinant Mouse Interleukin 1-beta | 10 µg | 199.00 |
| PROD62012 | IL-10, mouse, recombinant | Recombinant Mouse Interleukin 10 | 10 µg | 199.00 |
| PROD62120 | IL-11, mouse, recombinant | Recombinant Mouse Interleukin 11 | 10 µg | 249.00 |
| PROD62215 | IL-12-p40, mouse, recombinant (CHO) | Recombinant Mouse Interleukin 12 p40 (CHO cell-derived) | 10 µg | 249.00 |
| PROD62218 | IL-12-p80, mouse, recombinant (CHO) | Recombinant Mouse Interleukin 12 p80 (CHO cell-derived) | 10 µg | 249.00 |
| PROD62210 | IL-12, mouse, recombinant (CHO) | Recombinant Mouse Interleukin 12 | 10 µg | 249.00 |
| PROD62312 | IL-13, mouse, recombinant | Recombinant Mouse Interleukin 13 | 10 µg | 199.00 |
| PROD62510 | IL-15, mouse, recombinant | Recombinant Mouse Interleukin 15 | 10 µg | 199.00 |
| PROD62611 | IL-16, mouse, recombinant | Recombinant Mouse Interleukin 16 | 10 µg | 249.00 |
| PROD62710 | IL-17, mouse, recombinant | Recombinant Mouse Interleukin 17A | 10 µg | 199.00 |
| PROD62718 | IL-17F, mouse, recombinant | Recombinant Mouse Interleukin-17F | 25 µg | 249.00 |
| PROD62910 | IL-19, mouse, recombinant | Recombinant Mouse Interleukin 19 | 10 µg | 199.00 |
| PROD61220 | IL-2, mouse, recombinant | Recombinant Mouse Interleukin 2 | 20 µg | 199.00 |
| PROD62920 | IL-20, mouse, recombinant | Recombinant Mouse Interleukin 20 | 10 µg | 199.00 |
| PROD62921 | IL-21, mouse, recombinant | Recombinant Mouse Interleukin 21 | 10 µg | 249.00 |
| PROD62922 | IL-22, mouse, recombinant | Recombinant Mouse Interleukin 22 | 10 µg | 199.00 |
| PROD63010 | IL-25 (SF20), mouse, recombinant | Recombinant Mouse Interleukin 25 (SF20) | 10 µg | 249.00 |
| PROD62930 | IL-27 (p28), mouse, recombinant | Recombinant Mouse Interleukin 27 (p28) | 10 µg | 249.00 |
| PROD61340 | IL-3, mouse, recombinant | Recombinant Mouse Interleukin 3 | 10 µg | 199.00 |
| PROD62950 | IL-31, mouse, recombinant | Recombinant Mouse Interleukin 31 | 10 µg | 249.00 |
| PROD62958 | IL-33, mouse, recombinant | Recombinant Mouse Interleukin 33 | 10 µg | 249.00 |
| PROD61410 | IL-4, mouse, recombinant | Recombinant Mouse Interleukin 4 | 10 µg | 199.00 |
| PROD61412 | IL-5, mouse, recombinant | Recombinant Mouse Interleukin 5 | 25 µg | 249.00 |
| PROD61632 | IL-6, mouse, recombinant | Recombinant Mouse Interleukin 6 | 10 µg | 199.00 |
| PROD61710 | IL-7, mouse, recombinant | Recombinant Mouse Interleukin 7 | 10 µg | 199.00 |
| PROD61920 | IL-9, mouse, recombinant | Recombinant Mouse Interleukin 9 | 10 µg | 199.00 |
| PROD65340 | IP-10 (CXCL10), mouse, recombinant | Recombinant Mouse IFN Inducible Protein 10 (CXCL10) | 25 µg | 199.00 |
| PROD65420 | KC (GRO-alpha, CXCL1), mouse, recombinant | Recombinant Mouse Keratinocyte Chemoattractant (GRO-alpha, CXCL1) | 20 µg | 199.00 |
| PROD68230 | Leptin, mouse, recombinant | Recombinant Mouse Leptin | 1 mg | 199.00 |
| PROD66720 | LIGHT, mouse, recombinant | Recombinant Mouse LIGHT | 20 µg | 249.00 |
| PROD66519 | LIX (CXCL5, 70 aa), mouse, recombinant | Recombinant Mouse Lipopolysaccharide Induced CXC Chemokine (CXCL5, 70 aa variant) | 20 µg | 249.00 |
| PROD66520 | LIX (CXCL5, 93 aa), mouse, recombinant | Recombinant Mouse Lipopolysaccharide Induced CXC Chemokine (CXCL5, 93 aa variant) | 20 µg | 249.00 |
| PROD66525 | Lungkine (CXCL15), mouse, recombinant | Recombinant Mouse Lungkine (CXCL15) | 20 µg | 249.00 |
| PROD60442 | M-CSF, mouse, recombinant | Recombinant Mouse Macrophage Colony Stimulating Factor | 10 µg | 199.00 |
| PROD64030 | MCP-1 (JE, CCL2), mouse, recombinant | Recombinant Mouse Monocyte Chemotactic Protein (JE, CCL2) | 10 µg | 199.00 |
| PROD65722 | MCP-2 (CCL8), mouse, recombinant | Recombinant Mouse Monocyte Chemotactic Protein 2 (CCL8) | 20 µg | 249.00 |
| PROD65723 | MCP-3 (CCL7), mouse, recombinant | Recombinant Mouse Monocyte Chemotactic Protein 3 (CCL7) | 10 µg | 199.00 |
| PROD65725 | MCP-5 (CCL12), mouse, recombinant | Recombinant Mouse Monocyte Chemotactic Protein 5 (CCL12) | 20 µg | 249.00 |
| PROD67910 | MDC (CCL22), mouse, recombinant | Recombinant Mouse Macrophage Derived Chemokine (CCL22) | 20 µg | 249.00 |
| PROD67940 | MEC (CCL28), mouse, recombinant | Recombinant Mouse Mucosae-Associated Epithelial Chemokine (CCL28) | 20 µg | 249.00 |
| PROD65811 | MIG (CXCL9), mouse, recombinant | Recombinant Mouse Monokine Induced by Interferon-gamma (CXCL9) | 20 µg | 199.00 |
| PROD65833 | MIP-1 alpha (CCL3), mouse, recombinant | Recombinant Mouse Macrophage Inflammatory Protein 1-alpha (CCL3) | 10 µg | 199.00 |
| PROD65822 | MIP-1 beta (CCL4), mouse, recombinant | Recombinant Mouse Macrophage Inflammatory Protein 1-beta (CCL4) | 10 µg | 199.00 |
| PROD65844 | MIP-1 gamma (CCL9/10), mouse, recombinant | Recombinant Mouse Macrophage Inflammatory Protein 1-gamma | 20 µg | 249.00 |
| PROD65430 | MIP-2 (GRO-beta, CXCL2), mouse, recombinant | Recombinant Mouse Macrophage Inflammatory Protein 2 (CXCL2) | 20 µg | 199.00 |
| PROD65866 | MIP-3 alpha (CCL20), mouse, recombinant | Recombinant Mouse Macrophage Inflammatory Protein 3-alpha (CCL20) | 20 µg | 249.00 |
| PROD65877 | MIP-3 beta (CCL19), mouse, recombinant | Recombinant Mouse Macrophage Inflammatory Protein 3-beta (CCL19) | 20 µg | 199.00 |
| PROD65890 | Neuropoietin (NP), mouse, recombinant | Recombinant Mouse Neuropoietin (NP, NPO) | 25 µg | 249.00 |
| PROD67350 | NOGGIN, mouse, recombinant | Recombinant Mouse NOGGIN | 20 µg | 249.00 |
| PROD63022 | PDGF-BB, mouse, recombinant | Recombinant Mouse Platelet Derived Growth Factor BB | 10 µg | 199.00 |
| PROD66320 | Persephin, mouse, recombinant | Recombinant Mouse Persephin | 20 µg | 249.00 |
| PROD66022 | PLGF-2, mouse, recombinant (E. coli) | Recombinant Mouse Placenta Growth Factor 2 (E. coli-derived) | 10 µg | 249.00 |
| PROD60035 | Prolactin, mouse, recombinant | Recombinant Mouse Prolactin | 50 µg | 199.00 |
| PROD64130 | RANTES (CCL5), mouse, recombinant | Recombinant Mouse RANTES (CCL5) | 20 µg | 199.00 |
| PROD66660 | RELM-alpha, mouse, recombinant | Recombinant Mouse Resistin-like Molecule alpha | 25 µg | 199.00 |
| PROD66665 | RELM-beta, mouse, recombinant | Recombinant Mouse Resistin-like Molecule beta | 25 µg | 249.00 |
| PROD66668 | RELM-gamma, mouse, recombinant | Recombinant Mouse Resistin-like Molecule gamma | 25 µg | 199.00 |
| PROD66670 | Resistin, mouse, recombinant | Recombinant Mouse Resistin | 25 µg | 199.00 |

CYTOKINES, CHEMOKINES AND GROWTH FACTORS

ANTIBODIES, CYTOKINES AND PROTEINS

MOUSE RECOMBINANT (Cont'd)

| Product Number | Product Name | Description | Pkg Size | Price |
|----------------|---|--|----------|----------|
| PROD60058 | sCD105 (Endoglin), mouse, recombinant (Sf9) | Recombinant Mouse soluble CD105 (Endoglin, Sf9-insect cell-derived) | 25 µg | \$399.00 |
| PROD63100 | sCD40 Ligand, mouse, recombinant | Recombinant Mouse soluble CD40 Ligand (TNFSF5, TRAP, CD154, gp39) | 25 µg | 199.00 |
| PROD63120 | SCF, mouse, recombinant | Recombinant Mouse Stem Cell Ligand | 10 µg | 199.00 |
| PROD67220 | SDF-1 alpha (CXCL12), mouse, recombinant | Recombinant Mouse Stromal Cell-Derived Factor 1-beta (CXCL12) | 10 µg | 199.00 |
| PROD67222 | SDF-1 beta (CXCL12), mouse, recombinant | Recombinant Mouse Stromal Cell-Derived Factor 1-alpha (CXCL12) | 10 µg | 199.00 |
| PROD67355 | sLYVE-1, mouse, recombinant (Sf9) | Recombinant Mouse soluble Lymphatic Vessel Endothelial Hyaluronan Receptor 1 (Sf9 insect cell-derived) | 25 µg | 399.00 |
| PROD63200 | sRANKL, mouse, recombinant | Recombinant Mouse soluble Receptor Activator of NF-Kappa B | 10 µg | 199.00 |
| PROD68025 | sTIE-1 / Fc Chimera, mouse, recombinant (Sf9) | Recombinant Mouse soluble TIE-1/Fc Chimera (Sf9-insect cell-derived) | 20 µg | 199.00 |
| PROD68028 | sTIE-2 / Fc Chimera, mouse, recombinant (Sf9) | Recombinant Mouse soluble TIE-2/Fc Chimera (Sf9-insect cell-derived) | 20 µg | 199.00 |
| PROD63720 | TNF-alpha, mouse, recombinant (E. coli) | Recombinant Mouse Tumor Necrosis Factor alpha (E. coli-derived) | 20 µg | 199.00 |
| PROD63722 | TNF-alpha, mouse, recombinant (S. lividans) | Recombinant Mouse Tumor Necrosis Factor alpha (S. lividans-derived) | 20 µg | 199.00 |
| PROD65112 | TPO, mouse, recombinant | Recombinant Mouse Thrombopoietin | 10 µg | 199.00 |
| PROD63600 | TRAIL (Apo2L), mouse, recombinant | Recombinant Mouse Tumor Necrosis Factor-Related Apoptosis Inducing Ligand | 50 µg | 249.00 |
| PROD64409 | VEGF-121, mouse, recombinant | Recombinant Murine Vascular Endothelial Cell Growth Factor 121 | 10 µg | 249.00 |
| PROD64408 | VEGF-164, mouse, recombinant | Recombinant Mouse Vascular Endothelial Growth Factor 164 | 20 µg | 399.00 |
| PROD64410 | VEGF-165, mouse, recombinant (E. coli) | Recombinant Mouse Vascular Endothelial Growth Factor 165 (E. coli-derived) | 10 µg | 199.00 |
| PROD64423 | VEGF-165, mouse, recombinant (Sf9) | Recombinant Mouse Vascular Endothelial Growth Factor 165 (Sf9-insect cell-derived) | 10 µg | 199.00 |
| PROD68330 | Visfatin, mouse, recombinant | Recombinant Mouse Visfatin | 25 µg | 199.00 |

RAT RECOMBINANT

| Product Number | Product Name | Description | Pkg Size | Price |
|----------------|---|---|----------|----------|
| PROE68250 | Apolipoprotein-J, rat, recombinant | Recombinant Rat Apolipoprotein J | 10 µg | \$199.00 |
| PROE66210 | CNTF, rat, recombinant | Recombinant Rat Ciliary Neurotrophic Factor | 25 µg | 249.00 |
| PROE60170 | EGF, rat, recombinant | Recombinant Rat Epidermal Growth Factor | 100 µg | 249.00 |
| PROE60240 | FGF-2 (FGF-b), rat, recombinant | Recombinant Rat basic Fibroblast Growth Factor (FGF-2) | 50 µg | 249.00 |
| PROE60390 | FGF-9, rat, recombinant | Recombinant Rat Fibroblast Growth Factor 9 | 10 µg | 249.00 |
| PROE67510 | Fractalkine (CX3CL1), rat, recombinant | Recombinant Rat Fractalkine (CX3CL1) | 20 µg | 249.00 |
| PROE66312 | GDNF, rat, recombinant | Recombinant Rat Glial Derived Neurotropic Factor | 10 µg | 249.00 |
| PROE60420 | GM-CSF, rat, recombinant | Recombinant Rat Granulocyte/Macrophage Colony Stimulating Factor | 10 µg | 199.00 |
| PROE65420 | GRO-alpha (KC, CXCL1), rat, recombinant | Recombinant Rat Growth Regulated Oncogene alpha (KC, CXCL1) | 25 µg | 249.00 |
| PROE65430 | GRO-beta (MIP-2, CXCL2), rat, recombinant | Recombinant Rat Growth Regulated Oncogene beta (MIP-2, CXCL2) | 25 µg | 249.00 |
| PROE67335 | Growth Hormone (GH), rat, recombinant | Recombinant Rat Growth Hormone (GH) | 500 µg | 249.00 |
| PROE60730 | IFN-gamma, rat, recombinant | Recombinant Rat Interferon gamma | 100 µg | 199.00 |
| PROE60840 | IGF-1, rat, recombinant | Recombinant Rat Insulin Like Growth Factor I | 20 µg | 199.00 |
| PROE61112 | IL-1 alpha, rat, recombinant | Recombinant Rat Interleukin 1-alpha | 10 µg | 199.00 |
| PROE61120 | IL-1 beta, rat, recombinant | Recombinant Rat Interleukin 1-beta | 10 µg | 199.00 |
| PROE62012 | IL-10, rat, recombinant | Recombinant Rat Interleukin 10 | 10 µg | 199.00 |
| PROE62210 | IL-12, rat, recombinant | Recombinant Rat Interleukin 12 | 10 µg | 199.00 |
| PROE62314 | IL-13 (109 aa), rat, recombinant | Recombinant Rat Interleukin 13 (109 aa variant) | 10 µg | 249.00 |
| PROE62312 | IL-13 (113 aa), rat, recombinant | Recombinant Rat Interleukin 13 (113 aa variant) | 10 µg | 249.00 |
| PROE62510 | IL-15, rat, recombinant | Recombinant Rat Interleukin 15 | 10 µg | 199.00 |
| PROE62710 | IL-17, rat, recombinant | Recombinant Rat Interleukin 17A | 25 µg | 249.00 |
| PROE62715 | IL-17E, rat, recombinant | Recombinant Rat Interleukin 17E | 25 µg | 249.00 |
| PROE62810 | IL-18, rat, recombinant | Recombinant Rat Interleukin 18 | 25 µg | 199.00 |
| PROE61220 | IL-2, rat, recombinant | Recombinant Rat Interleukin 2 | 20 µg | 199.00 |
| PROE61342 | IL-3 beta, rat, recombinant | Recombinant Rat Interleukin 3-beta | 20 µg | 249.00 |
| PROE61340 | IL-3, rat, recombinant | Recombinant Rat Interleukin 3 | 10 µg | 199.00 |
| PROE61420 | IL-4, rat, recombinant | Recombinant Rat Interleukin 4 | 10 µg | 199.00 |
| PROE61520 | IL-5, rat, recombinant | Recombinant Rat Interleukin 5 | 10 µg | 199.00 |
| PROE61630 | IL-6, rat, recombinant | Recombinant Rat Interleukin 6 | 10 µg | 199.00 |
| PROE61710 | IL-7, rat, recombinant | Recombinant Rat Interleukin 7 | 10 µg | 249.00 |
| PROE65340 | IP-10 (CXCL10), rat, recombinant | Recombinant Rat IFN Inducible Protein 10 (CXCL10) | 25 µg | 249.00 |
| PROE68230 | Leptin, rat, recombinant | Recombinant Rat Leptin | 1 mg | 249.00 |
| PROE60442 | M-CSF, rat, recombinant | Recombinant Rat Macrophage Colony Stimulating Factor | 10 µg | 249.00 |
| PROE64030 | MCP-1 (CCL2), rat, recombinant | Recombinant Rat Monocyte Chemoattractant Protein 1 (CCL2) | 10 µg | 199.00 |
| PROE65833 | MIP-1 alpha (CCL3), rat, recombinant | Recombinant Rat Macrophage Inflammatory Protein 1-alpha (CCL3) | 20 µg | 199.00 |
| PROE65822 | MIP-1 beta (CCL4), rat, recombinant | Recombinant Rat Macrophage Inflammatory Protein 1-beta (CCL4) | 20 µg | 249.00 |
| PROE60035 | Prolactin, rat, recombinant | Recombinant Rat Prolactin | 50 µg | 199.00 |
| PROE64130 | RANTES (CCL5), rat, recombinant | Recombinant Rat RANTES (CCL5) | 20 µg | 249.00 |
| PROE66670 | Resistin, rat, recombinant | Recombinant Rat Resistin | 10 µg | 199.00 |
| PROE63120 | SCF, rat, recombinant | Recombinant Rat Stem Cell Factor | 10 µg | 199.00 |
| PROE67220 | SDF-1 alpha (CXCL12), rat, recombinant | Recombinant Rat Stromal Cell Derived Factor 1-alpha (CXCL12) | 10 µg | 249.00 |
| PROE67320 | SDF-1 beta (CXCL12), rat, recombinant | Recombinant Rat Stromal Cell Derived Factor 1-beta (CXCL12) | 10 µg | 249.00 |
| PROE63200 | sRANKL, rat, recombinant | Recombinant Rat soluble Receptor Activator of NF-Kappa-B Ligand | 10 µg | 249.00 |
| PROE63720 | TNF-alpha, rat, recombinant | Recombinant Rat Tumor Necrosis Factor alpha | 20 µg | 199.00 |
| PROE64411 | VEGF, rat, recombinant | Recombinant Rat Vascular Endothelial Growth Factor | 10 µg | 199.00 |
| PROE64412 | VEGF-C, rat, recombinant | Recombinant Rat Vascular Endothelial Growth Factor C | 10 µg | 199.00 |
| PROE64415 | VEGF-C152S, rat, recombinant | Recombinant Rat Vascular Endothelial Growth Factor C (152 aa variant) | 20 µg | 199.00 |

PromoKine

ENZO® LIFE SCIENCES Screen-Well™ COMPOUND LIBRARIES

A focused collections of compounds ideal for receptor de-orphaning, assay development and chemical genomics

This 96-well format, together with the focus of each collection on a defined group of compounds makes the Screen-Well™ Libraries convenient and cost-effective collections of compounds suitable for individual assays or high-throughput screening. Each library includes supporting data and a structure file for incorporating into your database.

- Focused collections of known actives
- Dissolved in biocompatible solvents
- Ready-to-screen



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|------------|
| ENZ28000100 | Bioactive Lipid Library (100 µL/well), 480 compounds of known biological activity | Pack | \$4,770.90 |
| ENZ28000500 | Bioactive Lipid Library (500 µL/well), 480 compounds of known biological activity | Pack | 10,872.00 |
| ENZ28010100 | Endocannabinoid Library (100 µL/well), 60 compounds with defined, putative, potential or speculative, activity at cannabinoid (CB) receptors and TRPV channels | Pack | 2,010.60 |
| ENZ28010500 | Endocannabinoid Library (500 µL/well), 60 compounds with defined, putative, potential or speculative, activity at cannabinoid (CB) receptors and TRPV channels | Pack | 4,013.10 |
| ENZ28020100 | Nuclear Receptor Ligand Library (100 µL/well), 76 compounds with defined and potential activity at nuclear receptors | Pack | 1,737.90 |
| ENZ28020500 | Nuclear Receptor Ligand Library (500 µL/well), 76 compounds with defined and potential activity at nuclear receptors | Pack | 5,649.30 |
| ENZ28030100 | Fatty Acid Library (100 µL/well), 68 fatty acids of various chain lengths and saturation | Pack | 836.10 |
| ENZ28030500 | Fatty Acid Library (500 µL/well), 68 fatty acids of various chain lengths and saturation | Pack | 1,737.90 |
| ENZ28050500 | Ion Channel Ligand Library (500 µL/well), 72 ion channel agonists and antagonists | Pack | 2,385.00 |
| ENA28100500 | Neurotransmitter Library (500 µL/well), 700 neurotransmitters on 10 plates according to receptor class | Pack | 18,918.00 |
| ENZ28110500 | Adrenergic Ligand Library (500 µL/well) | Pack | 1,593.00 |
| ENZ28120500 | Dopaminergic Ligand Library (500 µL/well) | Pack | 2,696.40 |
| ENZ28130500 | Serotonergic Ligand Library (500 µL/well) | Pack | 2,952.90 |
| ENZ28140500 | Opioid Ligand Library (500 µL/well) | Pack | 4,512.60 |
| ENZ28150500 | Cholinergic Ligand Library (500 µL/well) | Pack | 2,696.40 |
| ENZ28160500 | Histaminergic Ligand Library (500 µL/well) | Pack | 1,152.00 |
| ENZ28170500 | Ionotropic Glutamatergic Ligand Library (500 µL/well) | Pack | 1,593.00 |
| ENZ28250500 | Orphan Ligand Library (500 µL/well), 84 compounds with biological activity but no known receptor | Pack | 2,010.60 |
| ENZ28320100 | Kinase Inhibitor Library (100 µL/well), 80 kinase inhibitors | Pack | 1,791.90 |
| ENZ28320500 | Kinase Inhibitor Library (500 µL/well), 80 kinase inhibitors | Pack | 5,966.10 |
| ENZ28330100 | Protease Inhibitor Library (100 µL/well), 53 protease inhibitors | Pack | 2,051.10 |
| ENZ28330500 | Protease Inhibitor Library (500 µL/well), 53 protease inhibitors | Pack | 6,850.80 |
| ENZ28340100 | Phosphatase Inhibitor Library (100 µL/well), 33 phosphatase inhibitors | Pack | 1,245.60 |
| ENZ28340500 | Phosphatase Inhibitor Library (500 µL/well), 33 phosphatase inhibitors | Pack | 3,380.40 |
| ENZ28350100 | REDOX library (100 µL/well) | Pack | 994.50 |
| ENZ28350500 | REDOX library (500 µL/well) | Pack | 1,820.70 |
| ENZ28400100 | ICCB Known Bioactives Library (100 µL/well), 480 compounds of known biological activity | Pack | 11,511.00 |
| ENZ28410100 | FDA Approved Drug Library (100 µL/well), 640 compounds, selected to maximize chemical and pharmacological diversity, DMSO solutions (2 mg/mL) | Pack | 5,861.70 |
| ENZ28410500 | FDA Approved Drug Library (500 µL/well), 640 compounds, selected to maximize chemical and pharmacological diversity, DMSO solutions (2 mg/mL) | Pack | 12,789.90 |
| ENZ28420100 | FDA Approved Drug Library (100µL/well), 640 compounds, selected to maximize chemical and pharmacological diversity, 10 mM DMSO solutions | Pack | 7,263.90 |
| ENZ28420500 | FDA Approved Drug Library (500 µL/well), 640 compounds, selected to maximize chemical and pharmacological diversity, 10 mM DMSO solutions | Pack | 17,436.60 |
| ENZ28650001 | Natural Products Library (500 µL/well), 502 known natural products | Pack | 14,270.40 |
| ENZ28660100 | Rare Natural Products Library (100µL/well), 84 known natural products whose supply may be limited | Pack | 9,660.60 |



Matreya Inc. is committed to the development and manufacture of lipids and biochemicals of the highest quality and value to our customers.

MATREYA SPHINGOLIPIDS AND GLYCOSPHINGOLIPIDS

• 98+% pure by TLC

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| MT1802* | C18-Sphingosine (synthetic) | 25 mg | \$84.40 |
| MT1304* | D-erythro-sphingosine (semi-synthetic; bovine) | 10 mg | 163.20 |
| MT1901* | D-erythro-C2-Ceramide (synthetic) | 10 mg | 123.80 |
| MT1900* | D-erythro-C6-Ceramide (synthetic) | 10 mg | 123.80 |
| MT1903* | D-erythro-C8-Ceramide (synthetic) | 10 mg | 123.80 |
| MT1056 | Ceramide (natural – bovine) | 25 mg | 123.80 |
| MT1050 | Cerebrosides (natural – bovine) | 50 mg | 106.90 |
| MT1051 | Sphingomyelin (natural – bovine) | 25 mg | 98.50 |
| MT1049 | Sulfatides (natural – bovine) | 50 mg | 411.70 |
| MT1918 | N-Docosanoyl-D-erythro-Sphingosyl-phosphorylcholine | 0.5 mg | 301.50 |
| MT1065 | Mixed Gangliosides (natural – bovine) | 25 mg | 211.50 |
| MT1061 | Monosialoganglioside (GM1) (natural – bovine) | 5 mg | 271.10 |

* 98+% pure by TLC, GC

MATREYA GLYCEROPHOSPHOLIPIDS

• 98+% pure by TLC

| Product Number | Description | Pkg Size | Price |
|----------------|---|--------------|---------|
| MT1044 | Lecithin | 50mg/mL, 1mL | \$82.30 |
| MT1046 | lyso-Lecithin | 50mg | 101.30 |
| MT1047 | Phosphatidylserine | 50mg/mL, 1mL | 263.70 |
| MT1048 | Phosphatidylinositol (Na ⁺ salt) | 10mg/mL, 1mL | 197.60 |
| MT1045 | Phosphatidylethanolamine | 50mg/mL, 1mL | 237.80 |
| MT1052* | Phosphoglycerides Kit | 1 each | 671.60 |

* 98+% pure

MATREYA SATURATED FATTY ACIDS & METHYL ESTERS

• 99% pure by GC

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------------------------|----------|--------|
| MT1010 | C14 Tetradecanoic (Myristic) Acid | 1 g | 49.20 |
| MT1011 | C14 Methyl Tetradecanoate | 1 g | 49.20 |
| MT1014 | C16 Hexadecanoic (Palmitic) Acid | 1 g | 42.20 |
| MT1015 | C16 Methyl Hexadecanoate | 1 g | 42.20 |
| MT1018 | C17 Heptadecanoic (Margaric) Acid | 1 g | 185.70 |
| MT1019 | C17 Methyl Heptadecanoate | 1 g | 185.70 |
| MT1020 | C18 Octadecanoic (Stearic) Acid | 1 g | 42.20 |
| MT1021 | C18 Methyl Octadecanoate | 1 g | 42.20 |
| MT1035 | C22 Docosanoic (Behenic) Acid | 500 mg | 84.40 |
| MT1036 | C22 Methyl Docosanoate | 500 mg | 84.40 |
| MT1186 | C23 Tricosanoic Acid | 100 mg | 98.50 |
| MT1187 | C23 Methyl Tricosanoate | 100 mg | 98.50 |

MATREYA UNSATURATED FATTY ACIDS AND METHYL ESTERS

• 99+% pure by TLC, GC

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------------|----------|----------|
| MT1167 | Eicosapentaenoic acid | 25mg | \$148.60 |
| MT1136 | Docosahexaenoic acid | 100mg | 135.10 |
| MT1024 | Linoleic acid | 1g | 57.70 |
| MT1025 | Methyl linoleate | 1g | 57.70 |
| MT1022 | Oleic acid | 1g | 57.70 |

MATREYA TOCOPHEROLS

• 95% pure by TLC, 98% pure by GC

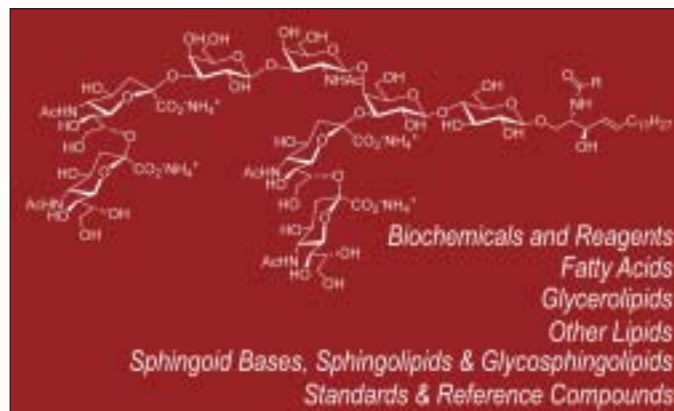
| Product Number | Description | Pkg Size | Price |
|----------------|------------------------|--------------|----------|
| MT1072 | rac-alpha-Tocopherol | 50mg/mL, 1mL | \$161.00 |
| MT1071 | rac-beta-Tocopherol | 50mg/mL, 1mL | 241.50 |
| MT1073* | rac-gamma-Tocopherol | 50mg/mL, 1mL | 241.50 |
| MT1074 | rac-5,7-Dimethyltolcol | 50mg/mL, 1mL | 241.50 |
| MT1790 | (+)-delta-Tocopherol | 50mg/mL, 1mL | 217.70 |
| MT1797 | Tocol | 50mg/mL, 1mL | 226.80 |

* 95% pure by TLC, 97% pure by GC

MATREYA SYNTHETIC PURE CONJUGATED LINOLEIC ACID ISOMERS (CLA)

• 98+% pure by TLC, GC

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| MT1245 | 9-cis, 11-trans-Octadecadienoic Acid | 25 mg | \$133.70 |
| MT1255 | Methyl 9-cis, 11-trans-Octadecadienoate | 25 mg | 133.70 |
| MT1181 | 9-trans, 11-trans-Octadecadienoic Acid | 25 mg | 133.70 |
| MT1257 | Methyl 9-trans, 11-trans-Octadecadienoate | 25 mg | 133.70 |
| MT1249 | 10-trans, 12-cis-Octadecadienoic Acid | 25 mg | 133.70 |
| MT1254 | Methyl 10-trans, 12-cis-Octadecadienoate | 25 mg | 133.70 |





USB offers the convenience reagents you need to operate your lab efficiently. While these reagents are made for a variety of applications, they all come in easy-to-use formats, and are USB Ultrapure biochemicals. If your convenience reagent isn't listed in this section, or the USB catalogue, USB would be happy to make it for you as part of their **customerization** program.

USB's **customerization** service is their ability to customize products from special pack sizes of biochemicals, to a particular concentration of a modifying enzyme or a specific buffer formulation. They have a proven record in this area to work with customers and respond to their needs. Please feel free call us at 1-888-593-5969 or visit the USB website at www.usb.affymetrix.com/customerization.asp if you would like to investigate customizing one of the great USB products. We are here to help you.

GRADE DEFINITIONS

A Few Notes About USB's Products

To simplify grade selection for customers the following grade definitions are provided. USB has selected grade names which are self explanatory, as well as those which reflect various industry standards. If any changes are noticed in a familiar grade designation for a given chemical, it is a result of a change to the grade definition rather than a change in the quality of the chemical.

USB Ultrapures are especially selected Biochemicals and reagents of high quality, suitable for use in numerous biotechnology applications. These reagents meet stringent requirements, such as adherence to compendial references where applicable, have ultra-low levels of trace metal contamination and low levels of DNase, RNase, Protease and endotoxins where applicable. **(UP)**

ACS Reagent Grade: Meets the limits of purity for inorganic chemicals as established by the American Chemical Society. **(ACS)**

CP Grade (Chemically Pure): Meets the requirements of the Food Chemicals Codex, but not intended for food use. **(CP)**

USBioAnalyzed: Meets USP or NF chemical testing requirements but is not sold as USP or NF Grade; USP and NF Grades (United States Pharmacopeia and National Formulary) must meet the requirements of those compendia and will fall under this category. **(USBA)**

USP Grade: Meets the requirements of the U.S. Pharmacopeia

NF Grade: Meets the requirements of the National Formulary

MB Grade (Molecular Biology): Applies to products that are suitable for a variety of Molecular Biology applications including those which require ultra-low levels of trace metal contamination, and low levels of DNase's, RNase's and Protease. These products are also functionally tested when applicable. **(MB)**

Reagent Grade: Suitable for use in general laboratory applications; meets in-house established limits in the absence of any compendial reference for the given compound. In-house established limits and their associated test methods are in many cases derived from common compendial methods such as USP, NF, ACS, etc. **(RG)**

High Purity Grade: Generally meets more stringent requirements than Reagent Grade products, such as higher assay limits or lower levels of trace contaminants. When available, this grade is more suitable as a reference material than the Reagent Grade. **(HPG)**

USB BLOTTING REAGENTS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|------------------------------|--------|-----------|---------|
| UB75354S1 | Blocking Buffer, 5X Solution | UP, MB | 600 mL | \$96.70 |
| UB70468S1 | Denhardt's Solution, 50X | UP, MB | 50 mL | 72.70 |
| UB19629S2 | SSC, 20X Solution | UP, MB | 500mL | 30.40 |
| UB19629S3 | SSC, 20X Solution | UP, MB | 1L | 47.00 |
| UB19629S4 | SSC, 20X Solution | UP, MB | 5L | 118.80 |
| UB75890S1 | SSPE, 20X Solution | UP, MB | 100 mL | 33.50 |
| UB75890S2 | SSPE, 20X Solution | UP, MB | 1L | 51.60 |
| UB75890S3 | SSPE, 20X Solution | UP, MB | 5L | 149.00 |

USB PURIFICATION SOLUTIONS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|--------|-----------|---------|
| UB77510S1 | Phenol, pH 4.5, Equilibrated | UP, MB | 100 mL | \$30.40 |
| UB75829S1 | Phenol, pH 8.0, Equilibrated | UP, MB | 100 mL | 31.90 |
| UB75831S1 | Phenol: Chloroform: Isoamyl Alcohol (25:24:1) | UP, MB | 100 mL | 39.10 |

* Please Note: Various package sizes are available, including custom and bulk. Please call to inquire.



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or call ^{MJS} BioLynx for assistance.

Products are for Laboratory Research Use Only.

CONVENIENCE REAGENTS

USB BUFFERS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|-------------------------------------|--------|-----------|---------|
| UB12656S2 | CAPS | UP | 100 g | \$42.70 |
| UB16924S1 | HEPES, 1M Solution, pH 7.3 | UP, MB | 100 mL | 24.90 |
| UB16924S2 | HEPES, 1M Solution, pH 7.3 | UP, MB | 500 mL | 62.20 |
| UB16924S3 | HEPES, 1M Solution, pH 7.3 | UP, MB | 1 L | 88.40 |
| UB16928S3 | HEPES, Sodium Salt | UP | 1 kg | 537.50 |
| UB17525S4 | Imidazole | UP | 1 kg | 115.80 |
| UB18886S2 | MES, Monohydrate | UP | 100 g | 40.10 |
| UB18886S3 | MES, Monohydrate | UP | 1 kg | 208.50 |
| UB19256S2 | MOPS | UP | 100 g | 42.70 |
| UB19256S3 | MOPS | UP | 1 kg | 230.70 |
| UB75889S1 | PBS, 10X Solution, pH 7.4 | UP, MB | 100 mL | 24.90 |
| UB75889S2 | PBS, 10X Solution, pH 7.4 | UP, MB | 1 L | 66.30 |
| UB75889S3 | PBS, 10X Solution, pH 7.4 | UP, MB | 5 L | 118.80 |
| UB20226S2 | Sodium Phosphate Dibasic | CP | 1 kg | 73.10 |
| UB75904S1 | TAE Buffer, 10X Solution | UP, MB | 1 L | 49.80 |
| UB75904S2 | TAE Buffer, 10X Solution | UP, MB | 5 L | 118.80 |
| UB74015S1 | TAE Buffer, 50X Solution | UP | 100 mL | 38.70 |
| UB77500S1 | TBS with Tween (TBST), 20X Solution | UP, MB | 5 L | 128.50 |
| UB75892S1 | TBS, 20X Solution, pH 7.4 | UP, MB | 100 mL | 24.90 |
| UB75892S2 | TBS, 20X Solution, pH 7.4 | UP, MB | 1 L | 85.70 |
| UB75892S3 | TBS, 20X Solution, pH 7.4 | UP, MB | 5 L | 121.60 |
| UB75893S2 | TE Buffer, 1X Solution | UP, MB | 100 mL | 24.90 |
| UB75834S1 | TE Buffer, 50X Solution | UP, MB | 100 mL | 19.30 |
| UB75834S2 | TE Buffer, 50X Solution | UP, MB | 500 mL | 49.80 |
| UB22561S3 | Tricine | UP | 500 g | 172.40 |
| UB22561S4 | Tricine | UP | 1 kg | 257.10 |
| UB75825S1 | Tris | UP, MB | 500 gm | 47.00 |
| UB75825S2 | Tris | UP, MB | 1 kg | 85.70 |
| UB75825S3 | Tris | UP, MB | 5 kg | 248.80 |
| UB22674S3 | Tris | HPG | 1 kg | 71.90 |
| UB22674S4 | Tris | HPG | 5 kg | 212.80 |
| UB22675S3 | Tris | RG | 1 kg | 65.00 |
| UB22676S4 | Tris Hydrochloride | UP, MB | 1 kg | 88.50 |
| UB22676S5 | Tris Hydrochloride | UP, MB | 5 kg | 384.50 |
| UB22678S2 | Tris, 2M Solution | UP, MB | 500 mL | 44.20 |
| UB77514S1 | Tris, 2M Solution, pH 7.5 | UP, MB | 100 mL | 30.40 |
| UB22637S1 | Tris/HCl, 1M Solution, pH 7.0 | UP, MB | 100 mL | 19.30 |
| UB22637S3 | Tris/HCl, 1M Solution, pH 7.0 | UP, MB | 1 L | 46.70 |
| UB22639S2 | Tris/HCl, 1M Solution, pH 7.5 | UP, MB | 500 mL | 31.80 |
| UB22638S2 | Tris/HCl, 1M Solution, pH 8.0 | UP, MB | 500 mL | 31.80 |

* Please Note: Various package sizes are available, including custom and bulk. Please call to inquire.

USB GEL ELECTROPHORESIS REAGENTS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|--------|------------|---------|
| UB72990S1 | DNA Sequencing 6% Gel Mix TBE Formulation | UP, MB | 5 bottles | \$84.30 |
| UB75841S1 | RapidGel 4% Liquid Acrylamide TBE Formulation DNA Sequencing Gel | UP, MB | 500 mL | 71.70 |
| UB75816S1 | Ethidium Bromide Drops | UP | 5 mL | 28.40 |
| UB71949S1 | Glycerol Tolerant Gel (GTG) Buffer, 20X Ready-Mixed Powder | UP, MB | 6 bottles | 102.20 |
| UB75827S1 | Glycerol Tolerant Gel (GTG) Buffer, 20X Solution | UP, MB | 1 L | 81.50 |
| UB75843S1 | RapidGel 6% Liquid Acrylamide TBE Formulation DNA Sequencing Gel | UP, MB | 500 mL | 71.70 |
| UB75844S1 | RapidGel 8% Liquid Acrylamide TBE Formulation DNA Sequencing Gel | UP, MB | 500 mL | 71.70 |
| UB75848S1 | RapidGel, 40% Liquid Acrylamide Stock Solution | UP, MB | 500 mL | 92.40 |
| UB75861S1 | RapidGel-XL 6% Liquid Acrylamide TBE Formulation DNA Sequencing Gel | UP, MB | 500 mL | 87.60 |
| UB75863S1 | RapidGel-XL, 40% Liquid Acrylamide Stock Solution | UP, MB | 500 mL | 260.80 |
| UB70724S1 | Stop Solution | UP | 1200 µL | 46.60 |
| UB70454S1 | TBE Buffer, 10X Ready-Mixed Powder | UP, MB | 6 x 200 mL | 37.30 |
| UB75891S1 | TBE Buffer, 5X Solution | UP, MB | 1 L | 29.00 |
| UB75891S2 | TBE Buffer, 5X Solution | UP, MB | 5 L | 66.30 |
| UB75894S1 | Tris-Glycine (TG) Buffer, 10X Solution | UP, MB | 1 L | 41.50 |
| UB75894S2 | Tris-Glycine (TG) Buffer, 10X Solution | UP, MB | 5 L | 113.30 |
| UB75895S1 | Tris-Glycine-SDS (TGS) Buffer, 10X Solution | UP, MB | 1 L | 47.00 |
| UB75895S2 | Tris-Glycine-SDS (TGS) Buffer, 10X Solution | UP, MB | 5 L | 121.60 |

USB BACTERIAL CULTURE MEDIA

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|-------------------------------------|-------|-----------|---------|
| UB75851S1 | LB Agar, Ready-Made Powder | UP | 250g | \$45.60 |
| UB75852S1 | LB Broth, Ready-Made Powder | UP | 250g | 20.70 |
| UB75853S1 | Luria Agar, Ready-Made Powder | UP | 250g | 48.40 |
| UB75854S1 | Luria Broth (LB), Ready-Made Powder | UP | 250g | 19.30 |
| UB75855S1 | N2CYM Broth, Ready-Made Powder | | 250g | 30.40 |
| UB75856S1 | Terrific Broth, Ready-Made Powder | UP | 250g | 41.50 |
| UB75857S1 | YPD Agar, Ready-Made Powder | | 250g | 44.20 |
| UB75858S1 | YDD Broth, Ready-Made Powder | | 250g | 40.10 |
| UB75864S1 | 2X YT Broth | | 1kg | 83.90 |

USB STOCK SOLUTIONS

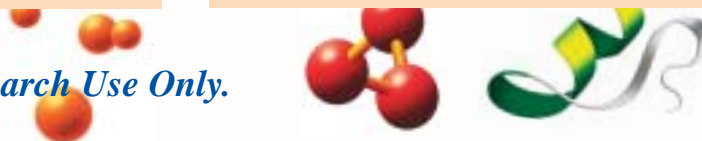
| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|--------|-----------|---------|
| UB75901S1 | Ammonium Acetate (NH ₄ OAc), 5M Solution | UP, MB | 100 mL | \$22.20 |
| UB77507S1 | Betaine, 5M Solution | UP, MB | 1.5 mL | 24.20 |
| UB70726S1 | Dithiothreitol (DTT) 0.1M Solution | UP, MB | 150 µL | 43.90 |
| UB75910 | DNA Solutions Kit | UP, MB | 1 kit | 146.50 |
| UB15694S1 | EDTA, 0.5M Solution (Ethylenediamine Tetraacetic Acid) | UP, MB | 100 mL | 20.70 |
| UB15694S2 | EDTA, 0.5M Solution (Ethylenediamine Tetraacetic Acid) | UP, MB | 500 mL | 49.80 |
| UB78641S1 | Magnesium Chloride (MgCl) 1.0 ± 0.1M Solution | UP, MB | 10 x 1 mL | 23.50 |
| UB78641S2 | Magnesium Chloride (MgCl) 1.0 ± 0.1M Solution | UP, MB | 100 mL | 38.70 |
| UB75887S2 | Manganese Chloride (MnCl) 1.0 ± 0.1M Solution | UP, MB | 100 mL | 38.70 |
| UB75898S1 | Potassium Acetate (KOAc), 3M Solution, pH 5.5 | UP, MB | 100 mL | 28.20 |
| UB75898S2 | Potassium Acetate (KOAc), 3M Solution, pH 5.5 | UP, MB | 500 mL | 81.90 |
| UB75896S1 | Potassium Chloride (KCl), 2M Solution | UP, MB | 100 mL | 22.10 |
| UB76225S1 | Proteinase K Solution | MB | 100 mg | 118.10 |
| UB75897S1 | Sodium Acetate (NaOAc), 3M Solution, pH 5.5 | UP, MB | 100 mL | 22.10 |
| UB75897S2 | Sodium Acetate (NaOAc), 3M Solution, pH 5.5 | UP, MB | 500 mL | 52.50 |
| UB75888S1 | Sodium Chloride (NaCl), 5M Solution | UP, MB | 100 mL | 19.30 |
| UB75888S2 | Sodium Chloride (NaCl), 5M Solution | UP, MB | 500 mL | 44.20 |
| UB77504S1 | Sodium Dodecyl Sulfate (SDS), 10% Solution | UP | 100 mL | 25.30 |
| UB77504S2 | Sodium Dodecyl Sulfate (SDS), 10% Solution | UP | 500 mL | 52.50 |
| UB75832S1 | Sodium Dodecyl Sulfate (SDS), 20% Solution | UP | 100 mL | 26.30 |
| UB75832S2 | Sodium Dodecyl Sulfate (SDS), 20% Solution | UP | 500 mL | 62.20 |
| UB71786S4 | Water, Nuclease-Free | UP, MB | 1 L | 40.10 |
| UB71788S2 | Water, Nuclease-Free, Endotoxin-Tested | UP, MB | 1 L | 74.60 |
| UB71785S1 | Water, PCR-Qualified | UP, MB | 10 x 1 mL | 44.20 |
| UB71783S4 | Water, RNase-Free | UP, MB | 1 L | 40.10 |
| UB70783S4 | Water, RNase-Free, DEPC Treated | UP, MB | 500 mL | 47.00 |

* Please note, other package sizes are available, please inquire.

USB AGAROSSES

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|--------|-----------|---------|
| UB75817S1 | Agarose - Separation ≥ 500 bp | UP, MB | 25g | \$55.30 |
| UB75817S2 | Agarose - Separation ≥ 500 bp | UP, MB | 100g | 178.60 |
| UB75817S3 | Agarose - Separation ≥ 500 bp | UP, MB | 250g | 366.90 |
| UB10132S1 | Agarose - Hi-Res™, Separation ≤ 1000 bp | UP, MB | 25g | 140.60 |
| UB10132S2 | Agarose - Hi-Res™, Separation ≤ 1000 bp | UP, MB | 100g | 298.70 |
| UB10133S1 | Agarose - Hi-Res™, Separation ≤ 500 bp | UP, MB | 25g | 140.60 |
| UB10133S2 | Agarose - Hi-Res™, Separation ≤ 500 bp | UP, MB | 100g | 298.70 |
| UB32821S1 | Agarose - Ultra Low Melt | UP | 10g | 145.80 |
| UB32821S2 | Agarose - Ultra Low Melt | UP | 25g | 288.70 |
| UB32829S1 | Agarose - Low Melt, Separation ≤ 1000 bp | UP, MB | 25g | 141.50 |
| UB32829S2 | Agarose - Low Melt, Separation ≤ 1000 bp | UP, MB | 100g | 393.80 |
| UB32830S1 | Agarose - Low Melt, Separation ≥ 1000 bp | UP, MB | 25g | 164.80 |
| UB32830S2 | Agarose - Low Melt, Separation ≥ 1000 bp | UP, MB | 100g | 446.20 |
| UB32835S1 | Agarose-HEEO | UP | 25g | 60.10 |
| UB32835S2 | Agarose-HEEO | UP | 100g | 197.60 |
| UB32835S3 | Agarose-HEEO | UP | 250g | 404.20 |
| UB32881S1 | Agarose - Finger Printing | UP, MB | 100g | 116.90 |
| UB32901S1 | Agarose - Pulse Field (PFGE) | UP, MB | 25g | 63.20 |
| UB32901S2 | Agarose - Pulse Field (PFGE) | UP, MB | 100g | 208.60 |
| UB32901S3 | Agarose - Pulse Field (PFGE) | UP, MB | 250g | 405.40 |
| UB32903S1 | Agarose - PFGE Plugs | UP, MB | 1g | 72.90 |
| UB32802S1 | Agarose - LE | UP | 25g | 54.20 |
| UB32802S2 | Agarose - LE | UP | 100g | 152.90 |
| UB32802S3 | Agarose - LE | UP | 250g | 282.90 |
| UB32803S1 | Agarose - ME | UP | 25g | 63.20 |
| UB32803S2 | Agarose - ME | UP | 100g | 156.50 |
| UB32803S3 | Agarose - ME | UP | 250g | 275.90 |
| UB32804S1 | Agarose - HE | UP | 25g | 66.40 |
| UB32804S2 | Agarose - HE | UP | 100g | 183.30 |
| UB32804S3 | Agarose - HE | UP | 250g | 344.20 |
| UB32805S1 | Agarose - HGT | UP | 25g | 96.20 |
| UB32805S3 | Agarose - HGT | UP | 250g | 563.00 |

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PURIFIED BIOCHEMICALS

USB ACS GRADE BIOCHEMICALS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|-------------|-----------|---------|
| UB11248S1 | Ammonium Chloride | ACS RG | 500 g | \$31.80 |
| UB11252S1 | Ammonium Molybdate Tetrahydrate | ACS RG | 500 g | 118.90 |
| UB11247S1 | Ammonium Phosphate, Dibasic | ACS RG | 500 g | 52.50 |
| UB11249S1 | Ammonium Phosphate, Monobasic | ACS RG | 500 g | 49.80 |
| UB12329S1 | Boric Acid | ACS RG | 500 g | 37.30 |
| UB21614S1 | Boric Acid, Sodium Salt | ACS RG | 500 g | 16.60 |
| UB12355S2 | Bromocresol Green, Sodium Salt | ACS RG | 10 g | 45.70 |
| UB12370S2 | Bromophenol Blue, Sodium Salt | UP, ACS RG | 10 g | 37.30 |
| UB12374S2 | Bromothymol Blue | ACS RG | 10 g | 27.60 |
| UB12375S2 | Bromothymol Blue, Sodium Salt | ACS RG | 10 g | 29.50 |
| UB12531S1 | Calcium Chloride, Dihydrate | ACS RG | 500 g | 54.70 |
| UB13735S1 | Citric Acid, Trisodium Salt, Dihydrate | UP, USBA | 500 g | 16.60 |
| UB13839S1 | Cupric Sulfate Pentahydrate | ACS RG | 500 g | 57.90 |
| UB15699S2 | Ethylenediaminetetraacetic Acid, (EDTA) Disodium Salt, Dihydrate | ACS RG | 500 g | 60.80 |
| UB12192S1 | Ferric Chloride, Hexahydrate | ACS RG | 500 g | 66.60 |
| UB12193S1 | Ferrous Sulfate, Heptahydrate | ACS RG | 500 g | 60.80 |
| UB16371S1 | Glycerol | ACS RG | 500 mL | 56.00 |
| UB16372S1 | Glycine | ACS RG | 2.5 kg | 59.50 |
| UB18516S1 | Lithium Chloride | ACS RG | 500 g | 73.40 |
| UB18641S1 | Magnesium Chloride, Hexahydrate | UP, ACS RG | 500 g | 30.40 |
| UB18651S1 | Magnesium Sulfate, Heptahydrate | ACS RG | 500 g | 31.80 |
| UB19150S1 | Methyl Orange | ACS RG | 25 g | 15.90 |
| UB19515S5 | Ninhydrin, Monohydrate | ACS RG | 500 g | 433.00 |
| UB20086S2 | Phenol Red, Free Acid | ACS RG | 25 g | 37.30 |
| UB20085S2 | Phenol Red, Sodium Salt | ACS RG | 10 g | 35.90 |
| UB20075S2 | Phenolphthalein | USBA ACS RG | 500 g | 50.10 |
| UB20602S2 | Potassium Acetate | ACS RG | 500 g | 42.90 |
| UB20598S1 | Potassium Chloride | UP, ACS RG | 500 g | 37.30 |
| UB20633S2 | Potassium Iodide | ACS RG | 500 g | 131.30 |
| UB20271S1 | Potassium Nitrate | ACS RG | 500 g | 57.90 |
| UB20274S2 | Potassium Phosphate, Dibasic | UP, ACS RG | 500 g | 59.80 |
| UB20227S2 | Potassium Phosphate, Monobasic | ACS RG | 500 g | 48.40 |
| UB20273S1 | Potassium Thiocyanate | ACS RG | 500 g | 85.70 |
| UB21608S2 | Sodium Acetate, Anhydrous | UP, ACS RG | 500 g | 41.50 |
| UB21602S1 | Sodium Bicarbonate | ACS RG | 500 g | 23.50 |
| UB21603S1 | Sodium Bisulfite | ACS RG | 500 g | 35.90 |
| UB21616S1 | Sodium Carbonate, Anhydrous | ACS RG | 500 g | 44.20 |
| UB21618S1 | Sodium Chloride | UP, ACS RG | 500 g | 13.80 |
| UB21606S1 | Sodium Nitrate | ACS RG | 500 g | 37.70 |
| UB21660S1 | Sodium Phosphate Dibasic | ACS RG | 500 g | 56.60 |

USB ACS GRADE BIOCHEMICALS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|------------|-----------|---------|
| UB20232S2 | Sodium Phosphate Dibasic, Heptahydrate | UP, ACS RG | 500 g | \$37.30 |
| UB20233S2 | Sodium Phosphate Monobasic, Monohydrate | UP, ACSRG | 500 g | 53.90 |
| UB21601S1 | Sodium Pyrophosphate Decahydrate | ACS RG | 500 g | 49.80 |
| UB21622S1 | Sodium Sulfate, Anhydrous | ACS RG | 500 g | 27.60 |
| UB21624S1 | Sodium Sulfite, Anhydrous | ACS RG | 500 g | 29.00 |
| UB21627S1 | Sodium Thiosulfate, Pentahydrate | ACS RG | 500 g | 27.60 |
| UB21931S1 | Sucrose | ACS RG | 500 g | 25.80 |
| UB22664S1 | Tris | ACS RG | 500 g | 40.10 |
| UB23041S1 | Urea | ACS RG | 500 g | 27.60 |

* Please note other package sizes are available, please inquire.

USB SUGARS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|-------------------------------|----------|-----------|----------|
| UB13979S1 | α -Cyclodextrin | | 25 g | \$176.70 |
| UB10635S2 | Adonitol | | 25 g | 80.20 |
| UB11270S1 | Amylopectin | | 1 kg | 60.80 |
| UB11450S2 | Arbutin | | 10 g | 106.40 |
| UB13980S1 | β -Cyclodextrin | | 100 g | 113.30 |
| UB18425S1 | β -D-Fructose | | 500 g | 26.50 |
| UB14420S1 | 2-Deoxy-D-Ribose | UP | 5 g | 49.80 |
| UB13235S2 | D-(+)-Cellobiose | | 10 g | 33.60 |
| UB14535S3 | D-(+)-Dextrose, Anhydrous | | 100 lb | 301.10 |
| UB15996S1 | D-(+)-Galactose | HP | 100 g | 85.10 |
| UB18185S1 | D-(+)-Lactose, Monohydrate | USBA | 1 kg | 26.50 |
| UB18725S3 | D-(+)-Maltose, Hydrate | UP | 5 kg | 145.10 |
| UB21060S4 | D-(+)-Raffinose, Pentahydrate | | 1 kg | 871.90 |
| UB23520S1 | D-(+)-Xylose | UP | 100 g | 29.20 |
| UB21220S1 | D-(-)-Ribose | UP | 5 g | 13.80 |
| UB14495S3 | Dextran | UP | 1 kg | 312.30 |
| UB14530S2 | Dextrin | | 25 lb | 65.00 |
| UB11400S1 | DL-Arabinose | | 10 g | 112.30 |
| UB18140S1 | DL-Lactic Acid, Free Acid | | 1 kg | 55.40 |
| UB21710S2 | D-Sorbitol | UP, USBA | 1 kg | 22.10 |
| UB15590S2 | Esculin | | 25 g | 76.60 |
| UB16375S1 | Glycerol | UP, USBA | 500 g | 13.80 |
| UB11406S1 | L-Arabinose | HP | 25 g | 69.10 |
| UB18724S3 | Maltose, Monohydrate | HP | 1 kg | 205.70 |
| UB18755S2 | Mannitol | UP, USBA | 1 kg | 127.80 |
| UB10145S1 | N-Acetyl-D-Glucosamine | | 10 g | 19.40 |
| UB32823S3 | Starch Hydrolyzed | UP | 1 kg | 160.50 |
| UB21695S2 | Starch-Soluble | UP | 1 kg | 52.50 |

* Please note other package sizes are available, please inquire.



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USB AMINO ACIDS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|----------|-----------|----------|
| UB17950S2 | α -Ketoglutaric Acid, Free Acid | | 100 g | \$42.90 |
| UB10665S1 | β -Alanine | UP | 1 kg | 56.70 |
| UB14000S4 | D-Cycloserine | | 25 g | 1,172.90 |
| UB16405S1 | Glycine | USBA | 500 g | 17.40 |
| UB16407S2 | Glycine | UP, MB | 500 g | 33.20 |
| UB11079S2 | L- α -Amino-N-Butyric Acid | | 5 g | 168.60 |
| UB11500S3 | L-Arginine, Hydrochloride | UP | 1 kg | 102.30 |
| UB11595S3 | L-Asparagine, Monohydrate | UP | 5 kg | 660.60 |
| UB14035S3 | L-Cysteine, Hydrochloride, Monohydrate | UP, RG | 1 kg | 284.90 |
| UB16285S5 | L-Glutamine | UP | 1 kg | 258.80 |
| UB18585S1 | L-Lysine, Hydrochloride | UP | 1 kg | 41.50 |
| UB19830S3 | L-Ornithine, Hydrochloride | UP | 1 kg | 288.60 |
| UB22765S3 | L-Tryptophan | USBA | 1 kg | 619.00 |
| UB10120S5 | N-Acetyl-L-Cysteine | UP | 1 kg | 472.90 |
| UB10675S3 | D-Alanine | | 25 g | 89.90 |
| UB10705S3 | L-Alanine | USBA | 100 g | 59.50 |
| UB11160S2 | DL- β -Amino-Iso-Butyric Acid | | 25 g | 106.40 |
| UB11480S2 | DL-Arginine, Hydrochloride | | 25 g | 80.20 |
| UB11600S2 | D-Aspartic Acid | | 100 g | 154.80 |
| UB11620S1 | L-Aspartic Acid | UP | 1 kg | 40.10 |
| UB11940S3 | Benzoyl-DL-Arginine Naphthylamide Hydrochloride | | 5 g | 176.30 |
| UB13745S3 | L-Citrulline | | 100 g | 132.70 |
| UB13930S2 | Creatinine | | 100 g | 94.00 |
| UB13910S2 | Creatine Monohydrate | | 100 g | 35.90 |
| UB14020S3 | DL-Cysteine, Hydrochloride | | 10 g | 186.70 |
| UB14575S3 | DL- α - ϵ -Diaminopimelic Acid | | 10 g | 146.80 |
| UB15640S1 | DL-Ethionine | | 5 g | 142.20 |
| UB16205S2 | D-Glutamic Acid | | 25 g | 116.10 |
| UB16210S2 | DL-Glutamic Acid, Monohydrate | | 100 g | 47.00 |
| UB16254S4 | γ -L-Glutamyl-p-nitranilide, Free Base | | 5 g | 174.70 |
| UB16320S3 | Glutathione, Oxidized | | 1 g | 33.60 |
| UB16315S2 | Glutathione, Reduced | | 25 g | 90.50 |
| UB16505S1 | Glycyl-Glycine | | 100 g | 55.30 |
| UB17055S1 | D-Histidine | | 10 g | 159.20 |
| UB17060S2 | DL-Histidine | | 25 g | 104.30 |
| UB17070S2 | L-Histidine, Free Base | | 100 g | 50.10 |
| UB17095S2 | L-Histidinol, Dihydrochloride | | 1 g | 127.50 |
| UB17185S2 | DL-Homocystine | | 100 g | 78.80 |
| UB17445S3 | Hydroxy-L-Proline | | 100 g | 189.10 |
| UB17820S3 | DL-Isoleucine | | 100 g | 102.30 |
| UB17825S4 | L-Isoleucine | UP, USBA | 100 g | 100.90 |
| UB18265S1 | D-Leucine | | 5 g | 55.30 |
| UB18270S2 | DL-Leucine | | 100 g | 60.80 |

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|----------|-----------|---------|
| UB18280S2 | L-Leucine | UP | 100 g | \$29.00 |
| UB18581S2 | L-Lysine, Monohydrate | | 100 g | 210.00 |
| UB18905S3 | D-Methionine | | 25 g | 125.80 |
| UB18910S2 | DL-Methionine | UP | 1 kg | 41.50 |
| UB18915S3 | L-Methionine | UP, USBA | 1 kg | 220.20 |
| UB19635S2 | DL-Norleucine | | 100 g | 123.00 |
| UB19660S2 | DL-Norvaline | | 100 g | 51.20 |
| UB20120S3 | DL- α -Phenyl Glycine | | 100 g | 94.00 |
| UB20100S2 | DL-Phenylalanine | | 100 g | 42.90 |
| UB20105S4 | L-Phenylalanine | UP, USBA | 250 g | 126.30 |
| UB20723S2 | D-Proline | | 5 g | 146.50 |
| UB20725S2 | DL-Proline | | 25 g | 164.30 |
| UB20730S3 | L-Proline | UP, USBA | 100 g | 60.40 |
| UB20740S1 | L-Proline-p-Nitroanilide | | 500 mg | 148.40 |
| UB20850S2 | Putrescine, Dihydrochloride | | 25 g | 66.60 |
| UB21490S2 | D-Serine | | 25 g | 85.70 |
| UB21485S2 | DL-Serine | | 100 g | 31.40 |
| UB21505S2 | L-Serine | | 100 g | 76.60 |
| UB22070S2 | Taurine | | 1 kg | 148.00 |
| UB22280S2 | D-Threonine | | 25 g | 142.40 |
| UB22285S2 | DL-Threonine | | 100 g | 124.40 |
| UB22290S3 | L-Threonine | UP | 100 g | 99.50 |
| UB22394S2 | L-Thyroxine | | 1 g | 66.80 |
| UB22591S2 | 3, 3', 5-Triiodo-L-Thyronine, Sodium Salt | | 500 mg | 219.70 |
| UB22755S2 | D-Tryptophan | | 100 g | 159.20 |
| UB22875S3 | Tyramine, Hydrochloride | | 25 g | 127.20 |
| UB22890S2 | D-Tyrosine | | 5 g | 81.60 |
| UB22895S1 | DL-Tyrosine | | 25 g | 71.90 |
| UB22935S3 | L-Tyrosine, Hydrochloride | | 10 g | 141.40 |
| UB23195S2 | DL-Valine | | 1 kg | 168.60 |
| UB23205S4 | L-Valine | USBA | 500 g | 175.10 |

* Please Note: Various package sizes are available. Please call to inquire.



PURIFIED BIOCHEMICALS

USB VITAMINS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|-------|-----------|----------|
| UB11570S1 | Ascorbyl Palminate | | 1 kg | \$342.10 |
| UB12115S2 | D-Biotin | UP | 1 g | 51.20 |
| UB12550S2 | D-Calcium Pantothenate | USBA | 500 g | 120.30 |
| UB18505S5 | DL- α -Lipoic Acid | | 100 g | 479.00 |
| UB12555S2 | DL-Calcium Pantothenate | | 1 kg | 159.00 |
| UB12795S3 | DL-Carnitine HCL | | 1 kg | 199.10 |
| UB13394S3 | Cholecalciferol | USBA | 5 g | 117.90 |
| UB13405S2 | Choline Bitartrate | | 500 g | 51.20 |
| UB13410S5 | Choline Chloride | | 1 kg | 40.10 |
| UB13415S3 | Choline Dihydrogen Citrate | | 5 kg | 127.20 |
| UB13765S3 | Cocarcboxylase | | 25 g | 62.20 |
| UB15562S2 | Ergocalciferol | USBA | 5 g | 143.40 |
| UB15565S3 | Ergosterol | | 25 g | 94.10 |
| UB17645S2 | Inositol | | 500 g | 90.30 |
| UB18815S3 | Menadione | USBA | 100 g | 66.80 |
| UB18820S2 | Menadione, Sodium Bisulfite | | 100 g | 71.50 |
| UB18970S2 | Methotrexate | UP | 100 mg | 59.00 |
| UB19480S3 | Niacinamide | USBA | 1 kg | 34.60 |
| UB11055S2 | p-Amino Benzoic Acid (PABA) | USBA | 500 g | 47.00 |
| UB20890S2 | Pyridoxal, Hydrochloride | | 5 g | 99.50 |
| UB20895S2 | Pyridoxal-5'-Phosphate, Monohydrate | | 5 g | 60.80 |
| UB20925S1 | Pyridoxamine, Dihydrochloride, Monohydrate | | 1 g | 75.70 |
| UB20900S4 | Pyridoxine, Hydrochloride | USBA | 100 g | 71.90 |
| UB23360S2 | Vitamin B ₁₂ | USBA | 500 mg | 37.30 |
| UB23365S2 | Vitamin B ₁₂ | UP | 25 g | 34.60 |
| UB21145S1 | Riboflavin | UP | 100 g | 34.60 |
| UB21150S3 | Riboflavin-5'-Phosphate, Sodium Salt | USBA | 100 g | 114.70 |
| UB22170S3 | Thiamine, Hydrochloride | UP | 500 g | 129.90 |
| UB22175S1 | Thiamine, Mononitrate | | 100 g | 31.80 |
| UB22410S2 | D- α -Tocopherol | | 100 g | 52.50 |
| UB22415S2 | DL- α -Tocopherol | | 100 g | 56.50 |
| UB22425S2 | DL- α -Tocopherol Acetate | | 100 g | 41.50 |
| UB22420S2 | DL- α -Tocopheryl Acetate | | 100 g | 58.10 |
| UB23310S2 | Vitamin A Acetate | | 100 g | 44.90 |
| UB23330S2 | Vitamin A Palmitate | | 100 g | 47.80 |
| UB23445S3 | Vitamin K ₁ | USBA | 5 g | 117.50 |
| UB23446S2 | Vitamin K ₂ | | 5 g | 158.70 |



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USB ANTIBIOTICS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|----------|-----------|---------|
| UB11259S2 | Ampicillin, Sodium Salt | UP, USBA | 25 g | \$53.90 |
| UB11257S2 | Ampicillin, Trihydrate | UP | 25 g | 53.90 |
| UB11256S1 | Amoxicillin, Trihydrate | UP | 10 g | 142.80 |
| UB11375S2 | Antimycin A | | 25 mg | 242.50 |
| UB11805S1 | Bacitracin | UP, USBA | 5 g | 33.90 |
| UB12678S2 | Carbenicillin, Disodium Salt | | 1 g | 121.60 |
| UB13294S1 | Cephalexin | USBA | 10 g | 183.40 |
| UB23660S3 | Chloramphenicol | UP, USBA | 100 g | 102.30 |
| UB13535S1 | Chlorotetracycline, Hydrochloride | UP, USBA | 5 g | 35.90 |
| UB14765S2 | Dihydrostreptomycin Sulfate | UP, USBA | 100 g | 77.40 |
| UB11379S4 | G 418 Sulfate Antibiotic - (Geneticin [®]) | UP | 5 g | 384.60 |
| UB16051S3 | Gentamicin Sulfate | UP, USBA | 5 g | 202.80 |
| UB19436S3 | Nalidixic Acid | UP | 100 g | 129.90 |
| UB19435S3 | Neomycin Sulfate | UP, USBA | 25 g | 26.30 |
| UB19770S2 | Nystatin | USBA | 5 mu | 63.70 |
| UB19803S1 | Oligomycin A | | 10 mg | 249.00 |
| UB23659S2 | Oxytetracycline, Hydrochloride | | 100 g | 65.00 |
| UB19985S1 | Penicillin G, Potassium | UP, USBA | 100 mu | 80.20 |
| UB19995S1 | Penicillin G, Sodium | UP, USBA | 100 mu | 85.70 |
| UB21246S2 | Rifampin | USBA | 5 g | 154.80 |
| UB21865S3 | Streptomycin Sulfate | UP, USBA | 100 g | 71.90 |
| UB21870S3 | Streptozotocin | | 500 mg | 94.60 |
| UB22105S2 | Tetracycline Hydrochloride | UP, USBA | 100 g | 76.00 |
| UB23000S2 | Tyrothricin | | 5 g | 124.90 |

* Please note other package sizes are available, please inquire.

USB SUBSTRATES

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|-------|-----------|----------|
| UB22128S1 | 3,3',5,5'-Tetramethylbenzidine (TMB) Substrate Solution | UP | 250 mL | \$117.30 |
| UB12387S3 | 5-Bromo-4-Chloro-3-Indolyl Phosphate, Disodium Salt (BCIP) | UP | 100 mg | 43.90 |
| UB10077S1 | 5-Bromo-4-Chloro-3-Indolyl- β -D-Galactoside (X-GAL) | UP | 100 mg | 53.40 |
| UB12388S3 | 5-Bromo-4-Chloro-3-Indolyl- β -D-Glucuronic Acid (X-GLUC), Cyclohexylammonium Salt | UP | 100 mg | 364.00 |
| UB34131S3 | p-Nitrophenyl- α -L-Fucopyranoside | | 1 g | 277.70 |

USB ENZYMES

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|----------|-----------|----------|
| UB10380S1 | Acid Phosphatase | | 1 g | \$78.70 |
| UB15335S6 | β -Nicotinamide Adenine Dinucleotide | | 100 g | 2,286.20 |
| UB12885S4 | Catalase | | 10 g | 358.50 |
| UB13285S2 | Cellulase | | 100 g | 51.20 |
| UB14626S1 | Diastase | | 100 g | 82.90 |
| UB15475S2 | Elastase | | 10 mg | 153.50 |
| UB16144S1 | Glucose Dehydrogenase | | 500 units | 69.50 |
| UB16965S3 | Hexokinase | | 10 ku | 121.20 |
| UB17680S3 | Invertase | | 1 kg | 156.20 |
| UB18065S2 | Lactate Dehydrogenase | | 10 ku | 57.60 |
| UB18492S1 | Lipase | | 25 ku | 63.60 |
| UB19275S1 | Mucin | | 100 mg | 62.30 |
| UB19880S1 | Pancreatin 1X | | 200 g | 18.00 |
| UB19930S2 | Papain | | 500 g | 108.60 |
| UB20010S1 | Pepsin | | 1 g | 50.00 |
| UB20055S1 | Peroxidase | | 25 mg | 78.80 |
| UB22720S2 | Trypsin | UP, USBA | 5 g | 179.90 |
| UB22725S1 | Trypsin (TPCK Treated) | UP | 100 mg | 105.70 |

USB GENERAL BIOCHEMICALS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|------------------------|-------|-----------|---------|
| UB10035S2 | Acetophenetidine | | 500 g | \$37.30 |
| UB10395S2 | Acriflavin Neutral | | 100 g | 82.90 |
| UB10625S1 | Adipic Acid | | 500 g | 16.60 |
| UB10654S2 | Agar | | 1 lb | 47.00 |
| UB10910S2 | Alizarin Red S | | 100 g | 324.60 |
| UB32809S1 | Amido Black 10B | UP | 100 g | 22.10 |
| UB32811S2 | Basic Fuschin | | 25 g | 60.80 |
| UB11905S2 | Benzoic Acid | | 1 kg | 22.10 |
| UB12052S1 | Bestatin | | 5 mg | 74.20 |
| UB12080S1 | Betaine, Anhydrous | | 100 g | 15.70 |
| UB12085S1 | Betaine, Hydrochloride | | 100 g | 16.60 |
| UB12090S1 | BHA | | 500 g | 37.30 |
| UB10295S2 | BHT | | 500 g | 39.40 |
| UB12110S3 | Bilirubin | | 1 g | 82.90 |



We Can Customize!

USB GENERAL BIOCHEMICALS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|----------|-------------|----------|
| UB77157S1 | Bis-(2-Mercaptoethanol)-Sulfone, Ultrapure | UP RG | 250 mg | \$112.10 |
| UB12149S1 | Bleomycin Sulfate | USBA | 15 units | 656.80 |
| UB32812S1 | Brilliant Blue G | UP | 25 g | 18.00 |
| UB32826S2 | Brilliant Blue R | UP | 100 g | 60.80 |
| UB12520S1 | Caffeine, Anhydrous, Ultrapure | UP | 100g | 17.40 |
| UB13361S2 | CHAPS | UP | 10 g | 169.20 |
| UB13610S3 | Cholesterol | | 1 kg | 237.40 |
| UB13630S5 | Cholic Acid, Sodium Salt | UP | 1 kg | 375.80 |
| UB13729S2 | Citric Acid, Anhydrous | USBA | 1 kg | 22.10 |
| UB13787S4 | Coenzyme A, Free Acid, Trihydrate, Ultrapure | UP | 100 mg | 171.20 |
| UB13785S5 | Coenzyme A, Lithium Salt, Trihydrate | | 250 mg | 290.30 |
| UB13928 | Compact Reaction Columns | | 50 | 145.80 |
| UB13852S1 | Corn Oil-Tocopherol Stripped | | 400 g | 127.50 |
| UB21026S2 | Deoxycholic Acid, Sodium Salt | UP | 100 g | 52.50 |
| UB76500S1 | Dexamethasone | UP, USBA | 100 mg | 18.00 |
| UB14850S3 | Dimedone | | 1 kg | 486.50 |
| UB15385S3 | Dithioerythritol | UP | 25 g | 242.60 |
| UB15703S1 | Ethylene Glycol-O,O'-Bis (2-Aminoethyl)-N,N,N',N'-Tetraacetic Acid (EGTA) | UP | 10 g | 87.10 |
| UB15701S2 | Ethylenediaminetetraacetic Acid, (EDTA) Disodium Salt, Dihydrate | UP, MB | 500 g | 60.80 |
| UB16920S2 | Heparin, Sodium Salt | UP, USBA | 100 ku | 27.60 |
| UB17924S2 | Kanamycin Sulfate | UP, USBA | 25 g | 160.80 |
| UB11545S2 | L-Ascorbic Acid | UP, USBA | 1 kg | 62.20 |
| UB18245S1 | Lecithin | | 500 g | 42.90 |
| UB18413S4 | Leupeptin | UP | 100 mg | 494.80 |
| UB18685S2 | Maleic Acid | RG | 1 kg | 36.20 |
| UB19265S5 | MTT | UP | 10 g | 388.40 |
| UB14862S1 | N,N-Dimethyl Formamide | UP | 250 mL | 46.30 |
| UB21653S2 | N-Lauroyl Sarcosine, Sodium Salt | UP | 100 g | 71.90 |
| UB19775S1 | n-Octyl- β -D-Glucopyranoside | UP | 1 g | 74.20 |
| UB77405S1 | Oligo(dT)12-18 Primer, MW \approx 4500 | MB | 100 μ L | 63.60 |
| UB19943S1 | Paraformaldehyde Solution, 4% in PBS | | 1 L | 55.00 |
| UB20037S2 | Pepstatin A | UP | 25 mg | 130.40 |
| UB75830S2 | Phenol | UP, MB | 500 g | 131.70 |
| UB20203S3 | Phenylmethyl Sulfonyl Fluoride | | 25 g | 177.80 |

* Please note other package sizes are available, please inquire.

PURIFIED BIOCHEMICALS

BIOCHEMICALS

USB GENERAL BIOCHEMICALS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|----------|------------|---------|
| UB19535S1 | p-Nitro Blue Tetrazolium Chloride (NBT) | UP | 250 mg | \$29.50 |
| UB19957S2 | Polyethylene Glycol 400 (PEG 400) | UP | 1 L | 60.40 |
| UB19959S2 | Polyethylene Glycol 8000, Flakes | UP | 1 kg | 63.30 |
| UB32819S2 | Ponceau S, Sodium Salt | UP | 50 g | 49.80 |
| UB21435S1 | Saponin | UP | 100 g | 60.80 |
| UB21610S2 | Sodium Azide | UP | 500 g | 104.30 |
| UB21705S2 | Sorbic Acid | UP | 500 g | 42.00 |
| UB21760S2 | Spermidine Trihydrochloride | UP | 5 g | 95.40 |
| UB21900S3 | Succinic Acid, Free Acid | UP | 1 kg | 39.80 |
| UB22292S1 | Thrombin Human | | 1000 units | 197.60 |
| UB22686S1 | Triton® X-100 | UP | 500 mL | 14.40 |
| UB20605S1 | Tween® 20 | UP | 500 mL | 20.00 |
| UB20608S2 | Tween® 80 | USBA | 1 ga | 78.40 |
| UB23036S3 | Urea | HP | 5 kg | 158.00 |
| UB23261S2 | Vancomycin, Hydrochloride | UP, USBA | 250 mg | 40.60 |
| UB23513S1 | Xylene Cyanol FF | UP | 25 g | 84.30 |
| UB23547S1 | Yeast Extract Powder | UP | 500 g | 27.60 |
| UB23540S2 | Yeast-Bakers | | 5 lb | 94.10 |

USB NUCLEOTIDE POWDERS, PURINES & PYRIMIDINES

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|-------|-----------|----------|
| UB14691S3 | 2',3'-Dideoxyadenosine | | 25 mg | \$408.10 |
| UB14235S1 | 2'-Deoxyadenosine | | 1 g | 22.10 |
| UB14225S1 | 2'-Deoxyadenosine-5'-Monophosphate, Free Acid | | 100 mg | 21.70 |
| UB14245S3 | 2'-Deoxyadenosine-5'-Triphosphate, Disodium Salt | | 100 mg | 250.80 |
| UB14270S4 | 2'-Deoxycytidine Hydrochloride | | 10 g | 242.60 |
| UB14260S3 | 2'-Deoxycytidine, Free Base | | 5 g | 185.40 |
| UB14275S1 | 2'-Deoxycytidine-5'-Monophosphate, Disodium Salt | | 100 mg | 28.80 |
| UB14280S3 | 2'-Deoxycytidine-5'-Triphosphate, Trisodium Salt | | 100 mg | 503.80 |
| UB14300S3 | 2'-Deoxyguanosine | | 25 g | 369.50 |
| UB14305S3 | 2'-Deoxyguanosine-5'-Diphosphate, Disodium Salt | | 100 mg | 419.40 |
| UB14310S1 | 2'-Deoxyguanosine-5'-Monophosphate, Disodium Salt | | 100 mg | 28.80 |
| UB14315S3 | 2'-Deoxyguanosine-5'-Triphosphate, Trisodium Salt | | 100 mg | 743.00 |

* Please note other package sizes are available, please inquire.

USB NUCLEOTIDE POWDERS, PURINES & PYRIMIDINES

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|-------|-----------|----------|
| UB14320S3 | 2'-Deoxyinosine | | 5 g | \$238.60 |
| UB14335S1 | 2'-Deoxyinosine-5'-Triphosphate, Sodium Salt | | 25 mg | 140.50 |
| UB14425S3 | 2'-Deoxyuridine | | 5 g | 161.70 |
| UB14430S1 | 2'-Deoxyuridine-5'-Monophosphate, Disodium Salt | | 100 mg | 36.40 |
| UB11235S1 | 2-Aminopurine, Free Base | | 100 mg | 49.80 |
| UB11245S2 | 3-Amino-1,2,4-Triazole | | 100 g | 86.90 |
| UB11056S2 | 4-Amino Antipyrine | | 50 g | 107.80 |
| UB12400S1 | 5-Bromo-2'-Deoxyuridine | | 500 mg | 38.70 |
| UB15875S3 | 5-Fluorouracil | UP | 5 g | 153.20 |
| UB17735S1 | 5-Iodo-2'-Deoxyuridine | | 500 mg | 18.00 |
| UB10440S3 | Adenine Hydrochloride | | 25 g | 138.50 |
| UB10450S2 | Adenine Sulfate Dihydrate | | 10 g | 22.10 |
| UB10460S4 | Adenosine | UP | 100 g | 169.10 |
| UB10470S1 | Adenosine-3'-5'-Cyclic Monophosphate | | 100 mg | 46.30 |
| UB10472S1 | Adenosine-3'-5'-Cyclic Monophosphate, Sodium Salt, Ultrapure | UP | 100 mg | 39.10 |
| UB10555S1 | Adenosine-3'-Monophosphate, Monohydrate | | 250 mg | 23.00 |
| UB10490S4 | Adenosine-5'-Diphosphate, Disodium Salt, Dihydrate, Ultrapure | UP | 10 g | 376.30 |
| UB10500S1 | Adenosine-5'-Diphosphate, Trisodium Salt | | 500 mg | 32.20 |
| UB10620S3 | Adenosine-5'-Monophosphate, Disodium Salt | | 25 g | 88.40 |
| UB10521S3 | Adenosine-5'-Monophosphate, Free Acid, Monohydrate | | 100 g | 175.40 |
| UB10586S5 | Adenosine-5'-Triphosphate, Disodium Salt, Low Iron | | 100 g | 783.90 |
| UB14060S4 | Cytidine, Free Base | | 100 g | 287.40 |
| UB14110S4 | Cytidine-5'-Monophosphate, Disodium Salt | | 100 g | 959.60 |
| UB14121S1 | Cytidine-5'-Triphosphate, Disodium Salt, Dihydrate | | 25 mg | 18.20 |
| UB14130S4 | Cytosine | | 100 g | 399.30 |
| UB14138S3 | Cytosine Arabinoside | UP | 10 g | 821.30 |



*Products are for
Laboratory Research Use Only.*

USB NUCLEOTIDE POWDERS, PURINES & PYRIMIDINES

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|-------|-----------|---------|
| UB21235S1 | D-(-)-Ribose-5-Phosphate, Disodium Salt | | 250 mg | \$68.20 |
| UB15785S1 | Flavin Adenine Dinucleotide, Disodium Salt, Hydrate | | 100 mg | 36.20 |
| UB16740S4 | Guanine Hydrochloride | | 1 kg | 946.80 |
| UB16750S4 | Guanosine | | 1 kg | 702.90 |
| UB16751S2 | Guanosine, Low Endotoxin | | 100 g | 648.20 |
| UB16762S1 | Guanosine-2',3'-Cyclic Monophosphate, Sodium Salt | | 100 mg | 84.80 |
| UB16770S1 | Guanosine-3'-5' Monophosphate, Sodium Salt | UP | 250 mg | 418.50 |
| UB16785S2 | Guanosine-5'-Diphosphate, Disodium Salt | | 100 mg | 43.60 |
| UB16800S1 | Guanosine-5'-Triphosphate, Disodium Salt | | 25 mg | 38.70 |
| UB17130S1 | Histone | | 100 mg | 26.50 |
| UB17105S1 | Histone, Salt Free | | 100 mg | 70.90 |
| UB17120S2 | Histone-Lysine Rich | | 100 mg | 98.50 |
| UB17126S1 | Histone-Lysine Rich F1 | | 10 mg | 63.70 |
| UB17128S1 | Histone-Slightly Lysine Rich F2b | | 10 mg | 203.00 |
| UB17520S3 | Hypoxanthine | | 25 g | 41.50 |
| UB17620S4 | Inosine | | 100 g | 158.00 |
| UB20795S2 | Protamine Sulfate | USBA | 25 g | 187.10 |
| UB20835S1 | Purine, Free Base | | 250 mg | 29.00 |
| UB20940S1 | Pyrimidine, Free Base | | 500 mg | 23.50 |
| UB10062S1 | S-Acetyl Coenzyme A, Lithium Salt | UP | 10 mg | 81.80 |
| UB10601S2 | S-Adenosyl-L-Methionine Sulfate p-Toluenesulfonate | | 100 mg | 444.10 |
| UB22165S1 | Theophylline | | 100 g | 18.00 |
| UB22310S3 | Thymidine-5'-Diphosphate, Sodium Salt | | 100 mg | 888.00 |
| UB22325S1 | Thymidine-5'-Triphosphate, Trisodium Salt | | 10 mg | 59.10 |
| UB22330S2 | Thymine | | 25 g | 37.30 |
| UB23020S1 | Uracil | | 100 g | 30.90 |
| UB23075S3 | Uric Acid | | 100 g | 77.40 |
| UB23130S4 | Uridine | | 100 g | 489.00 |
| UB23135S2 | Uridine-5'-Diphosphate, Disodium Salt | | 100 mg | 41.90 |
| UB23160S2 | Uridine-5'-Triphosphate, Trisodium Salt | | 500 mg | 140.30 |

* Please note other package sizes are available, please inquire.

USB NUCLEOTIDE POWDERS, PURINES & PYRIMIDINES

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|---|-------|-----------|---------|
| UB23140S1 | Uridine-5'-Diphospho-Glucose, Disodium Salt | | 500 mg | \$84.00 |
| UB23460S4 | Xanthine | | 100 g | 215.30 |
| UB23465S3 | Xanthine Monosodium Salt, Monohydrate | | 10 g | 89.80 |

USB ULTRAPURE NUCLEOTIDES (dNTPs)

USB offers an extensive selection of Ultrapure nucleotides for a wide variety of applications. All USB Ultrapure nucleotides are functionally tested in either PCR or DNA sequencing. USB nucleotides are available in solution or powder form and are provided in convenient packaging – separately, as a set of 4 or as a mixture. Deoxynucleotides (dNTPs), Dideoxynucleotides (ddNTPs) and Ribonucleotides (NTPs) are available in either sodium or lithium salt forms.

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|-------|--------------|---------|
| UB77102S1 | 2'-Deoxyadenosine-5'-Triphosphate (dATP) Sodium Salt, 100mM Solution | UP | 25 µmol | \$83.30 |
| UB77104S1 | 2'-Deoxycytidine-5'-Triphosphate (dCTP) Sodium Salt, 100mM Solution | UP | 25 µmol | 83.30 |
| UB77106S1 | 2'-Deoxyguanosine-5'-Triphosphate (dGTP) Sodium Salt, 100mM Solution | UP | 25 µmol | 83.30 |
| UB77205S1 | 2'-Deoxyinosine-5'-Triphosphate (dITP) Sodium Salt, 100mM Solution | UP | 25 µmol | 88.70 |
| UB77108S1 | 2'-Deoxythymidine-5'-Triphosphate (dTTP) Sodium Salt, 100mM Solution | UP | 25 µmol | 83.30 |
| UB77206S1 | 2'-Deoxyuridine-5'-Triphosphate (dUTP) Sodium Salt, 100mM Solution | UP | 25 µmol | 88.70 |
| UB77100S1 | Set of Four dNTPs (dATP, dCTP, dGTP, dTTP) 100mM Solution | UP | 4 x 25 µmol | 272.80 |
| UB77328 | Set of Four dNTPs (dATP, dCTP, dGTP, dTTP) 100mM Solution | UP | 4 x 100 µmol | 768.60 |
| UB77212S1 | PCR Nucleotide Mix (10mM each dATP, dCTP, dGTP, dTTP) | UP | 500 µL | 87.80 |
| UB77330S1 | PCR Nucleotide Mix with dUTP (10mM each dATP, dCTP, dGTP, dUTP) | UP | 500 µL | 87.80 |



We Can Customize!

USB ULTRAPURE DIDEOXYNUCLEOSIDE TRIPHOSPHATES (ddNTPs)

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|-------|------------|---------|
| UB77110S1 | 2',3'-Dideoxyadenosine-5'-Triphosphate (ddATP), Sodium Salt, 10mM Solution | UP | 1 µmol | \$35.80 |
| UB77112S1 | 2',3'-Dideoxycytidine-5'-Triphosphate (ddCTP), Sodium Salt, 10mM Solution | UP | 1 µmol | 60.80 |
| UB77114S1 | 2',3'-Dideoxyguanosine-5'-Triphosphate (ddGTP) Sodium Salt, 10mM Solution | UP | 1 µmol | 59.50 |
| UB77116S1 | 2',3'-Dideoxythymidine-5'-Triphosphate (ddTTP), Sodium Salt, 10mM Solution | UP | 1 µmol | 59.50 |
| UB77125 | Set of Four ddNTPs (ddATP, ddCTP, ddGTP, ddTTP) 10mM Solution | UP | 4 x 1 µmol | 232.00 |

USB ULTRAPURE RIBONUCLEOTIDES (NTPs)

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|-------|-------------|---------|
| UB77241S1 | Adenosine-5'-Triphosphate (ATP), Sodium Salt, 100mM Solution | UP | 25 µmol | \$78.70 |
| UB77242S1 | Cytidine 5'-Triphosphate (CTP), Sodium Salt, 100mM Solution | UP | 25 µmol | 78.70 |
| UB77243S1 | Guanosine-5'-Triphosphate (GTP), Sodium Salt, 100mM Solution | UP | 25 µmol | 78.70 |
| UB77244S1 | Uridine-5'-Triphosphate (UTP), Sodium Salt, 100mM Solution | UP | 25 µmol | 78.70 |
| UB77245S1 | Set of Four NTPs (ATP, CTP, GTP, UTP) 100mM Solution | UP | 4 x 25 µmol | 245.30 |

USB MUTATION DISCOVERY PROTEINS

E. coli Mut Proteins are ideal for mutation detection and mismatch repair studies. This class of proteins simplifies the study of genetic variations. Mut S Protein, for example, actually detects disruption of normal base pairings without using primers. These products are thoroughly tested to ensure functional integrity and are offered exclusively from USB.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| UB71432S1 | Mut H | 5 µg | \$166.60 |
| UB71435S1 | Mut L | 25 µg | 218.10 |
| UB71422S1 | Mut S | 25 µg | 218.10 |
| UB71428S1 | Mut Y (<i>E. coli</i> Adenine DNA Glycosylase) | 100 µg | 279.40 |
| UB78333S1 | T4 Endonuclease VII | 1 mL | 27.30 |

*Products are for
Laboratory Research Use Only.*

USB PROTEINS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--------------------------------------|-------|-----------|----------|
| UB11388S2 | Aprotinin | UP | 25 mg | \$119.60 |
| UB20048S1 | Bacteriological Peptone | UP | 1 lb | 65.70 |
| UB12845S3 | Casein (High Nitrogen) | UP | 25 lb | 392.90 |
| UB12855S1 | Casein Hydrolysate, Enzymatic Digest | UP | 1 lb | 31.80 |
| UB12840S1 | Casein-Hammersten | UP | 100 g | 22.10 |
| UB18645S3 | Lysozyme | UP | 10 g | 134.80 |
| UB21730S2 | Soybean Trypsin Inhibitor | UP | 1 g | 127.20 |
| UB22508S1 | Transferrin, Holo | | 100 mg | 117.30 |

Visit www.usb.affymetrix.com for a complete listing of their proteins.

USB ALBUMINS

| Product Number | Description | Grade | Pkg Size* | Price |
|----------------|--|--------|-----------|----------|
| UB10867S1 | Albumin, Bovine | MB | 10 g | \$242.50 |
| UB10864S1 | Albumin, Bovine, 22% Solution | | 10 mL | 43.50 |
| UB10921S1 | Albumin, Bovine, 50 mg/mL Solution | UP, MB | 50 mg | 63.60 |
| UB10848S1 | Albumin, Bovine, Acetylated | UP, MB | 25 mg | 53.00 |
| UB10852S2 | Albumin, Bovine, Cohn Fraction V | | 100 g | 292.10 |
| UB10856S4 | Albumin, Bovine, Crystallized | | 100 g | 1,202.40 |
| UB10857S3 | Albumin, Bovine, Fraction V | | 100 g | 110.10 |
| UB10858S3 | Albumin, Bovine, Fraction V, Fatty Acid Poor | | 10 g | 158.90 |
| UB10868S4 | Albumin, Bovine, Fraction V | RIA | 100 g | 353.30 |
| UB10893S1 | Albumin, Bovine, Low Endotoxin | | 10 g | 56.70 |
| UB10881S1 | Albumin, Fraction V Fatty Acid Poor | | 500 mg | 21.70 |
| UB10878S4 | Albumin, Human, Fraction V | UP | 10 g | 136.20 |

* Please note other package sizes are available, please inquire.

USB DNA BINDING PROTEIN

Single-Stranded DNA Binding Protein binds with high affinity in a cooperative manner to single-stranded DNA and does not bind well to double-stranded DNA. It is involved in DNA replication and recombination *in vivo*.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| UB70032Y | Single-Stranded DNA Binding Protein (SSB) | 100 µg | \$154.20 |

Affymetrix | **USB[®] Products**



Northstar BioProducts® (formerly Seikagaku America) is the research product line of Cape Cod, Inc. (ACC). Since 2005, Northstar BioProducts® has provided high quality reagents, chemicals and glycoanalysis technology for quantitative glycoprofiling of therapeutic glycoproteins for biopharmaceutical research and QC.

They are a leading provider of carbohydrate chemistry oriented products including glycosaminoglycans (GAGs), GAG enzymes, mucopolysaccharides, monoclonal antibodies, endoglycosidases, exoglycosidases, as well as complete deglycosylation kits.

NORTHSTAR OLIGOSACCHARIDES

All oligomers are chromatographically pure, greater than 95%, confirmed by high performance liquid chromatography.

| Product Number | Description | Pkg Size | Price |
|--------------------------------------|--|----------|----------|
| N-Acetylchitooligosaccharides | | | |
| SK4004121 | Tri-N-Acetylchitotriose, Fine | 50 mg | \$186.10 |
| SK4004181 | Di-N-Acetylchitobiose, Fine | 50 mg | 218.40 |
| SK4004231 | Tetra-N-Acetylchitotetraose | 50 mg | 186.10 |
| SK4004251 | Penta-N-Acetylchitopentaose, Fine | 50 mg | 194.20 |
| SK4004271 | Hexa-N-Acetylchitohexaose, Fine | 50 mg | 267.80 |
| Chitosan Oligosaccharides | | | |
| SK4004321 | Chitosan Dimer | 100 mg | 169.90 |
| SK4004331 | Chitosan Trimer | 100 mg | 169.90 |
| SK4004341 | Chitosan Tetramer | 100 mg | 348.30 |
| SK4004351 | Chitosan Pentamer | 100 mg | 348.30 |
| SK4004361 | Chitosan Hexamer | 100 mg | 503.10 |
| Cellooligosaccharides | | | |
| SK4004001 | Cellotriose, Fine | 50 mg | 186.10 |
| SK4004021 | Cellotetraose, Fine | 50 mg | 186.10 |
| SK4004041 | Cellopentaose, Fine | 50 mg | 194.20 |
| SK4004061 | Cellohexaose, Fine | 50 mg | 202.30 |
| Laminarioligosaccharides | | | |
| SK4004851 | Laminaribiose, Fine | 50 mg | 218.40 |
| SK4004871 | Laminaritriose, Fine | 50 mg | 186.10 |
| SK4004891 | Laminaritetraose, Fine | 50 mg | 186.10 |
| SK4004911 | Laminaripentaose, Fine | 50 mg | 186.10 |
| SK4004931 | Laminarihexaose, Fine | 50 mg | 186.10 |
| SK4004951 | Laminariheptaose, Fine | 50 mg | 186.10 |
| Other Oligosaccharides | | | |
| SK4005771 | Trehalose 999 | 5 g | 667.20 |
| SK4005781 | Trehalose | 100 g | 191.00 |
| SK4005791 | Trehalose, Endotoxin Free | 100 g | 506.20 |
| SK4005801 | Trehalose, Anhydrous | 100 g | 234.60 |
| SK4005811 | Neotrehalose | 1 g | 442.70 |
| Standard Mixture | | | |
| SK8001041 | N-Acetylchitooligosaccharides Mixture (for HPLC) | 30 mg | 461.30 |
| SK8001051 | Chitosan-Oligosaccharides Mixture (for HPLC) | 150 mg | 461.30 |
| SK8001061 | Laminarioligosaccharides Mixture (for HPLC) | 35 mg | 461.30 |

NORTHSTAR GAG DEGRADING ENZYMES

| Product Number | Description | Pkg Size | Price |
|----------------|---|-----------|----------|
| SK1003301A | Chondroitinase ABC (<i>Proteus vulgaris</i>) | 10 units | \$231.40 |
| SK1003321A | Chondroitinase ABC Protease Free (<i>Proteus vulgaris</i>) | 2 units | 286.40 |
| SK1003341A | Chondroitinase AC I Flavo (<i>Flavobacterium heparinum</i>) | 1 unit | 239.50 |
| SK1003351A | Chondroitinase AC II Arthro (<i>Arthrobacter aurescens</i>) | 5 units | 239.50 |
| SK1003371A | Chondroitinase B (<i>Flavobacterium heparinum</i>) | 0.1 unit | 385.50 |
| SK1003501A | Chondro-4-Sulfatase (<i>Proteus vulgaris</i>) | 1.6 units | 239.50 |
| SK1003551A | Chondro-6-Sulfatase (<i>Proteus vulgaris</i>) | 2.5 units | 239.50 |
| SK1007003 | Heparinase (<i>Flavobacterium heparinum</i>) | 0.1 unit | 574.30 |
| SK1007033 | Heparitinase (<i>Flavobacterium heparinum</i>) | 0.1 unit | 574.30 |
| SK1007041A | Heparitinase I (<i>Flavobacterium heparinum</i>) | 0.1 unit | 770.90 |
| SK1007051 | Heparitinase II (<i>Flavobacterium heparinum</i>) | 0.1 unit | 764.70 |
| SK1007401 | Hyaluronidase (<i>Streptomyces hyalurolyticus</i>) 100 TRU/ampule | 4 ampules | 224.90 |
| SK1007411A | Hyaluronidase SD (<i>Streptococcus dysgalactiae</i>) | 0.5 units | 239.50 |
| SK1008101 | Keratanase (<i>Pseudomonas sp.</i>) | 10 units | 431.90 |
| SK1008121 | Keratanase II (<i>Bacillus sp.</i>) | 0.1 units | 431.90 |

NORTHSTAR MUCOPOLYSACCHARIDES AND GLYCOSAMINOGLYCANS

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| SK4006401A | Chondroitin, Na Salt | 20 mg | \$235.30 |
| SK4006581A | Chondroitin Sulfate A, Na Salt, Super Special Grade | 2 mg | 235.30 |
| SK4006701A | Chondroitin Sulfate C, Na Salt, Super Special Grade | 20 mg | 212.00 |
| SK4006751A | Chondroitin Sulfate C, Na Salt, Special Grade | 2 g | 235.30 |
| SK4006761A | Chondroitin Sulfate D, Na Salt, Super Special Grade | 20 mg | 235.30 |
| SK4006781A | Chondroitin Sulfate E, Na Salt, Super Special Grade | 2 mg | 235.30 |
| SK4007631A | Biotinylated Hyaluronic Acid Binding Protein | 50 µg | 456.70 |

ELISA KITS

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------------|----------|------------|
| SK2805641 | Heparan Sulfate ELISA Kit | 1 kit | \$1,540.30 |

KITS FOR CARBOHYDRATE ANALYSIS, PURIFICATION, LABELING & DETECTION

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| SK4005701 | Unsaturated Chondro-Disaccharide Kit Includes: delta Di-0S, delta Di-4S, delta Di-6S, 2 mgs/each | Kit | \$869.90 |
| SK4005711 | Unsaturated Chondro-Disaccharide Kit (C Kit) Includes: delta Di-0S, delta Di-4S, delta Di-6S, delta Di-diSD, delta Di-diSE, delta Di-triS, 250 µg | Kit | 1,113.00 |
| SK4005721 | Unsaturated Dermato/Hyaluro-Disaccharide Kit (D Kit) | Kit | 1,113.00 |
| SK4005751 | Unsaturated HS/HEP-Desaccharide Kit (H Kit) for HPLC Includes: delta DiHS-0S, delta DiHS-NS, delta DiHS-6S, delta DiHS-diS1, delta DiHS-diS2, delta DiHS-triS | Kit | 1,860.70 |
| SK4008601 | Chitosan-Oligosaccharides Mixture The Chitosan-Oligosaccharides Mixture is for dissolution of sample adsorbed to DSA, PWM and WGA-agarose. It is a hydrolyzed product of chitin and is an oligomer with β-1-4 binding of D-GlcNAc. The mixture comprises 2 to 8 saccharides. | | 380.80 |

ENDO-GLYCOSIDASE

| Product Number | Description | Pkg Size | Price |
|----------------|--|------------|----------|
| SK1000951 | N-Acetylmuramidase SG (<i>Streptomyces globisporus</i>) | 10 mg | \$501.60 |
| SK1004531 | Endo-alpha-N-Acetylgalactosaminidase (<i>Alcaligenes</i> sp.) | 0.5 unit | 1,356.00 |
| SK1004551 | Endo-beta-Galactosidase (<i>Escherichia freundii</i>) | 0.1 unit | 562.00 |
| SK1004601 | Endoglycosidase D (<i>Streptococcus pneumoniae</i>) | 0.1 unit | 289.60 |
| SK1004611 | Endoglycosidase F1 (<i>Chryseobacterium meningosepticum</i> recombinant) ** | 1 unit | 456.70 |
| SK1004621 | Endoglycosidase F2 (<i>Chryseobacterium meningosepticum</i> recombinant) ** | 300 mU | 456.70 |
| SK1004631 | Endoglycosidase F3 (<i>Chryseobacterium meningosepticum</i> recombinant) ** | 300 mU | 456.70 |
| SK1004651 | Endoglycosidase H (<i>Streptomyces griseus</i>) | 0.1 unit | 270.90 |
| SK1004671 | Endoglycosidase H (<i>Streptomyces plicatus</i> recombinant) ** | 300 mU | 456.70 |
| SK1004681 | Endo-beta-N-Acetylglucosaminidase (<i>Flavobacterium</i> sp.) | 1 unit | 1,046.40 |
| SK1006761 | Glycopeptidase A (Almond) | 10 m unit | 1,165.70 |
| SK1006861 | O-Glycosidase (<i>Streptococcus pneumoniae</i> recombinant) ** | 0.075 unit | 456.70 |
| SK1006881 | PNGase F (<i>Chryseobacterium meningosepticum</i>) ** | 300 mU | 456.70 |
| SK1201251 | Proline Specific Endopeptidase (<i>Flavobacterium meningosepticum</i>) | 50 unit | 718.30 |
| SK1201601 | Pullulanase, Crude (<i>Aerobacter aerogenes</i>) | 1 g | 152.80 |
| SK1203891 | beta-Glucosaminidase (<i>Streptococcus pneumoniae</i> recombinant) ** | 2.75 unit | 456.70 |

EXO-GLYCOSIDASE

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|------------|
| SK1000861 | alpha-N-Acetylgalactosaminidase (<i>Acremonium</i> sp.) ** | 1 unit | \$1,280.20 |
| SK1000941 | beta-N-Acetylhexosaminidase (Jack bean) ** | 10 units | 513.90 |
| SK1000961 | beta-N-Acetylhexosaminidase (<i>Penicillium oxalicum</i>) ** | 2 units | 1,297.30 |
| SK1005351 | alpha(1-2) Fucosidase (<i>Xanthamona</i>) ** | 6 mU | 456.70 |
| SK1005391 | alpha(1-3,4) Fucosidase (<i>Xanthamona</i>) ** | 6 mU | 456.70 |
| SK1005401 | alpha(1-6) Fucosidase (<i>Chryseobacterium meningosepticum</i> recombinant) ** | 6 mU | 456.70 |
| SK1005602 | alpha-Galactosidase (<i>Melibiase</i>) (<i>Mortierella vinacea</i>) | 50 units | 357.60 |
| SK1005621 | alpha(1-3,6) Galactosidase (<i>E.coli</i> recombinant) ** | 24 units | 456.70 |
| SK1005701 | beta-Galactosidase (Jack bean) | 5 units | 411.80 |
| SK1005731 | beta-Galactosidase (<i>Streptococcus</i> 6646K) | 0.1 unit | 544.90 |
| SK1005771 | beta(1-4) Galactosidase (<i>Streptococcus Pneumoniae</i> recombinant) ** | 180 mU | 456.70 |
| SK1005791 | beta(1-3,4,6) Galactosidase (recombinant) ** | 360 mU | 456.70 |
| SK1005811 | Glucoamylase (<i>Rhizopus</i> sp.) | 2,000U | 179.60 |
| SK1006801 | Glycosidases "Mixed" (<i>Turbo cornutus</i>) | 1 g | 625.40 |
| SK1009611 | 1,2 alpha Mannosidase, Recombinant | 0.1 unit | 659.40 |
| SK1009621 | alpha-Mannosidase (Jack bean) | 10 units | 411.80 |
| SK1009671 | alpha(1-6) Core Mannosidase (<i>Xanthamona</i> recombinant) ** | 60 mU | 456.70 |
| SK1009681 | alpha(1-2,3,6) Mannosidase (Jack Bean) ** | 600 mU | 616.10 |
| SK1200521 | Neuraminidase F (<i>Streptococcus</i> sp.) | 1 unit | 506.20 |
| SK1200551 | alpha(2-3) neuraminidase (<i>Streptococcus pneumoniae</i> recombinant) ** | 300 mU | 456.70 |
| SK1200561 | alpha(2-3,6) neuraminidase (<i>Clostridium perfringens</i> recombinant) ** | 900 mU | 456.70 |
| SK1200571 | alpha(2-3,6,8,9) neuraminidase (<i>Arthrobacter ureafaciens</i> recombinant) ** | 300 mU | 456.70 |
| SK1204621 | beta(1-2) Xylosidase (<i>Xanthamona</i>) ** | 600 mU | 456.70 |
| SK1204631 | beta(1-4) Xylosidase (<i>Enterobacter</i> recombinant) ** | 300 mU | 456.70 |

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AGAROSE LECTINS

For Lectin affinity chromatography, purification of glycoproteins, structural analysis of sugar chain in glycoproteins

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| SK3000131 | Anti-H Lectin (Ulex europaeus) - Strong | 2 mL | \$255.40 |
| SK3000141 | Anti-H Lectin (Ulex europaeus) | 8 mL | 255.40 |
| SK3000161 | AAL (Aleuria aurantia) | 2 mg | 309.60 |
| SK3000361 | Con A (Jack bean) | 500 mg | 255.40 |
| SK3000371 | DSA (Datura stramonium) | 5 mg | 433.40 |
| SK3000381 | DBA (Dolichos biflorus) | 5 mg | 309.60 |
| SK3000431 | ECA (Erythrina cristagalli) | 5 mg | 242.70 |
| SK3000811 | TTA (Tachypleus tridentatus Agglutinin) | 1 mg | 418.00 |
| SK3000871 | LCA (Lens culinaris) - A | 5 mg | 332.80 |
| SK3000891 | LCA (Lens culinaris) | 5 mg | 179.80 |
| SK3000921 | ABA (Agaricus bisporus) | 5 mg | 410.20 |
| SK3000931 | Lotus Lectin | 5 mg | 332.80 |
| SK3000951 | MAM (Maackia amurensis) | 2 mg | 255.40 |
| SK3000961 | PSA (Pisum sativum) | 5 mg | 194.20 |
| SK3000991 | PNA (Arachis hypogaea) | 5 mg | 179.80 |
| SK3001041 | PHA (Phaseolus vulgaris) - E4 | 5 mg | 286.40 |
| SK3001051 | PHA (Phaseolus vulgaris) -L4 | 5 mg | 379.30 |
| SK3001141 | PHA (Phaseolus vulgaris) - P | 50 mg | 355.40 |
| SK3001411 | PWM (Phytolacca americana) | 5 mg | 179.80 |
| SK3001771 | SSA (Sambucus sieboldiana) | 5 mg | 458.20 |
| SK3001791 | SBA (Soybean) | 5 mg | 218.40 |
| SK3001831 | UEA- I (Ulex europaeus) | 2 mg | 255.40 |
| SK3001861 | TJA (Trichosanthes japonica Agglutinin) - I | 2 mg | 814.20 |
| SK3001871 | TJA (Trichosanthes japonica Agglutinin) - II | 5 mg | 814.20 |
| SK3001911 | WGA (Wheat Germ) | 2 mg | 179.80 |

FITC LECTINS

For staining and detection of glycoproteins

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|----------|
| SK3002051 | AAL (Aleuria aurantia) - FITC | 1 mg | \$512.40 |
| SK3002061 | ABA (Agaricus bisporus) - FITC | 1 mg | 255.40 |
| SK3002111 | Con A (Jack bean) - FITC | 10 mg | 218.40 |
| SK3002141 | DBA (Dolichos biflorus) - FITC | 1 mg | 179.80 |
| SK3002151 | DSA (Datura stramonium) - FITC | 1 mg | 218.40 |
| SK3002181 | LCA (Lens culinaris) - FITC | 2 mg | 152.80 |
| SK3002191 | Lotus Lectin - FITC | 1 mg | 218.40 |
| SK3002201 | MAM (Maackia amurensis) - FITC | 1 mg | 456.70 |
| SK3002211 | PHA (Phaseolus vulgaris) - E4 - FITC | 2 mg | 255.40 |
| SK3002221 | PHA (Phaseolus vulgaris) - L4 - FITC | 2 mg | 255.40 |
| SK3002231 | PNA (Arachis hypogaea) - FITC | 2 mg | 218.40 |
| SK3002321 | RCA 120 (Ricinus communus) - FITC | 2 mg | 176.20 |
| SK3002511 | SBA (Soybean) - FITC | 2 mg | 218.40 |
| SK3002521 | SSA (Sambucus sieboldiana) - FITC | 1 mg | 456.70 |
| SK3002541 | UEA- I (Ulex europaeus) - FITC | 1 mg | 309.60 |
| SK3002611 | WGA (Wheat Germ) - FITC | 2 mg | 179.80 |

LECTIN SUGAR SETS

For the elution of bound lectins from affinity chromatography resins

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| SK4008611 | Sugar Set I (for Lectin-Agarose Set I) | 1 Set | \$161.80 |
| SK4008621 | Sugar Set II (for Lectin-Agarose Set II) | 1 Set | 215.20 |
| SK4008631 | Sugar Set III (for Lectin-Agarose Set III) | 1 Set | 410.20 |

BIOTINYLATED LECTINS*For staining and detection of glycoproteins*

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| SK3004061 | AAL (Aleuria aurantia) - Biotin | 0.3 mg | \$179.80 |
| SK3004062 | AAL (Aleuria aurantia) - Biotin | 1 mg | 309.60 |
| SK3004081 | ABA (Agaricus bisporus) - Biotin | 1 mg | 255.40 |
| SK3004101 | Con A (Jack bean) - Biotin | 5 mg | 218.40 |
| SK3004151 | DBA (Dolichos biflorus) - Biotin | 1 mg | 218.40 |
| SK3004171 | DSA (Datura stramonium) - Biotin | 1 mg | 218.40 |
| SK3004181 | ECA (Erythrina cristagalli) - Biotin | 1 mg | 218.40 |
| SK3004201 | LCA (Lens culinaris) - Biotin | 1 mg | 125.90 |
| SK3004231 | Lotus Lectin - Biotin | 1 mg | 218.40 |
| SK3004241 | MAM (Maackia amurensis) - Biotin | 1 mg | 456.70 |
| SK3004251 | PHA (Phaseolus vulgaris) - E4 - Biotin | 1 mg | 218.40 |
| SK3004261 | PHA (Phaseolus vulgaris) - L4 - Biotin | 1 mg | 218.40 |
| SK3004301 | PNA (Arachis hypogaea) - Biotin | 1 mg | 152.80 |
| SK3004401 | SBA (Soybean) - Biotin | 1 mg | 218.40 |
| SK3004421 | SSA (Sambucus sieboldiana) - Biotin | 1 mg | 512.40 |
| SK3004451 | UEA- I (Ulex europaeus) - Biotin | 1 mg | 332.80 |
| SK3004501 | WGA (Wheat Germ) - Biotin | 1 mg | 152.80 |

PEROXIDASE LECTINS*For staining and detection of glycoproteins*

| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------------------|----------|-----------|
| SK3002811 | Con A (Jack bean) - HRP | 2 mg | \$ 267.00 |
| SK3002831 | DBA (Dolichos biflorus) - HRP | 1 mg | 512.40 |
| SK3002841 | DSA (Datura stramonium) - HRP | 1 mg | 456.70 |
| SK3002851 | LCA (Lens culinaris) - HRP | 1 mg | 410.20 |
| SK3003011 | PNA (Arachis hypogaea) - HRP | 1 mg | 410.20 |
| SK3003021 | PHA (Phaseolus vulgaris) - E4 - HRP | 1 mg | 410.20 |
| SK3003031 | PHA (Phaseolus vulgaris) - L4 - HRP | 1 mg | 512.40 |
| SK3003141 | SBA (Soybean) - HRP | 1 mg | 356.00 |
| SK3003161 | UEA-I (Ulex europaeus) - HRP | 1 mg | 558.80 |
| SK3003211 | WGA (Wheat Germ) - HRP | 1 mg | 356.00 |

LECTIN KITS*For staining and detection of glycoproteins*

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| SK3002701 | Lectin Set I - FITC (Con A, DBA, LCA, PHA-E4, PNA, RCA120, UEA-I & WGA) | 1 Set | \$620.70 |
| SK3002721 | Lectin Set II - FITC (ABA, DSA, Lotus, MAM, PHA-L4, SBA & SSA) | 1 Set | 713.60 |
| SK3003301 | Lectin Set I - HRP (Con A, LCA, PHA-E4, PNA, RCA120 & WGA) | 1 Set | 659.40 |
| SK3003311 | Lectin Set II - HRP (Con A, DBA, LCA, PHA-E4, PNA, RCA120, UEA-I & WGA) | 1 Set | 1,061.90 |
| SK3004801 | Lectin Set I - Biotin (Con A, DBA, LCA, PHA-E4, PNA, RCA120, UEA-I & WGA) | 1 Set | 682.70 |
| SK3004821 | Lectin Set II - Biotin (ABA, DSA, Lotus, MAM, PHA-L4, SBA & SSA) | 1 Set | 682.70 |

PROTEOGLYCANS

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| SK2704251 | Ab Human Dermatan Sulfate Proteoglycan, purified | 0.2 mg | \$983.00 |
| SK2704281 | Ab Human Large Proteoglycan, purified | 0.2 mg | 983.00 |
| SK2708041 | Ab Mouse Heparan Sulfate Proteoglycan, purified | 0.2 mg | 1,201.20 |
| SK3707151 | Ab Neurocan/Rat, purified | 0.2 mg | 1,201.20 |
| SK3707251 | Ab Rat Phosphacan, purified | 0.2 mg | 1,198.20 |
| SK3707401 | Ab-Neuroglycan/Rat,(C1)(mo)(M),affin. | 0.2 mg | 1,190.40 |

GLYCOSAMINOGLYCANS

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| SK2704211 | Ab Chondroitin-4-Sulfate, purified | 0.2 mg | \$983.00 |
| SK2704231 | Ab Chondroitin-6-Sulfate, purified | 0.2 mg | 983.00 |
| SK2704261 | Ab Heparan Sulfate, purified | 0.2 mg | 983.00 |
| SK2704271 | Ab Keratan Sulfate, purified | 0.2 mg | 983.00 |
| SK2704311 | Ab Chondroitin Sulfate DDi-OS, purified | 0.2 mg | 983.00 |
| SK2704321 | Ab Chondroitin Sulfate DDi-4S, purified | 0.2 mg | 983.00 |
| SK2704331 | Ab Chondroitin Sulfate DDi-6S, purified | 0.2 mg | 983.00 |
| SK3702551 | Ab Heparan Sulfate, purified | 0.2 mg | 983.00 |
| SK3702601 | Ab Human D-Heparan Sulfate, purified | 0.2 mg | 983.00 |
| SK3706151 | Ab Chondroitin Sulfate type D, purified | 0.2 mg | 1,201.20 |
| SK3707101 | Ab Chondroitin Sulfate A, purified | 0.2 mg | 1,201.20 |
| SK3707201 | Ab Chondroitin, purified | 0.2 mg | 1,198.20 |
| SK3707301 | Ab-Heparan Sulfate(JM-403 epitope)/Rat,(JM-403)(mo)(M),Purif. | 0.2 mg | 1,190.40 |
| SK3707351 | Ab-Heparan Sulfate(NAH46 epitope)/Rat,(NAH46)(mo)(M),Purif. | 0.2 mg | 1,207.40 |

GLYCOLIPIDS

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|------------|
| SK2704401 | Ab Sialyl Lewis X/Human, (2H5) (mo)(M), Supn. | 0.2 mg | \$1,185.80 |
| SK2704411 | Ab Lewis X, purified | 0.2 mg | 719.80 |
| SK2704421 | Ab Lewis Y, purified | 0.2 mg | 719.80 |
| SK2704431 | Ab Sialyl Lewis A, purified | 0.2 mg | 719.80 |
| SK2704441 | Ab Sialyl Lewis A, purified | 0.2 mg | 719.80 |
| SK2705531 | Ab GD2 (Hu), purified | 0.2 mg | 1,037.20 |
| SK2705541 | Ab GD3 (Hu), purified | 0.2 mg | 1,037.20 |
| SK2708951 | Ab Human SD1a, purified | 0.2 mg | 964.40 |
| SK2708971 | Ab Human SM3, purified | 0.2 mg | 964.40 |
| SK3706101 | Ab Asialo GM1, purified | 0.2 mg | 964.40 |
| SK3706201 | Ab Lewis A, purified | 0.2 mg | 719.80 |
| SK3706251 | Ab Lewis B, purified | 0.2 mg | 719.80 |
| SK3706301 | Ab Ganglioside GD2 GMR7 (mo), purified | 0.2 mg | 1,037.20 |
| SK3706351 | Ab Ganglioside GD3 GMR19 (mo), purified | 0.2 mg | 1,037.20 |
| SK3706401 | Ab N-Acetyl GM2 MK1-16 (mo), purified | 0.2 mg | 1,044.90 |
| SK3706501 | Ab N-Glycolyl GM2 MK2-34 (mo), purified | 0.2 mg | 1,044.90 |
| SK3706551 | Ab Gal-Nac-GD1a, purified | 0.2 mg | 1,044.90 |
| SK3706651 | Ab Ganglioside GQ1b GMR13 (mo), purified | 0.2 mg | 962.80 |
| SK3706701 | Ab Ganglioside O-Ac-GD3 GMR2 (mo), purified | 0.2 mg | 962.80 |
| SK3706751 | Ab Ganglioside GT1b GMR5 (mo), purified | 0.2 mg | 976.80 |
| SK3706801 | Ab Gb3 (CD77) BGR23 (mo), purified | 0.2 mg | 1,027.90 |
| SK3706901 | Ab SGPG NGR50 (mo), purified | 0.2 mg | 1,198.20 |
| SK3706951 | Ab GM3 GMB6 (mo), purified | 0.2 mg | 795.70 |
| SK3707001 | Ab Ganglioside GT1a GMR11 (mo), purified | 0.2 mg | 1,044.90 |
| SK3707051 | Ab GD1a (GMR17) (mo), purified | 0.2 mg | 1,044.90 |

BIOCHEMICALS



Need Assistance?

*Please contact Mike in our
Technical Support Department at
1-888-593-5969 or tech@biolynx.ca*

ENDOTOXIN TESTING



Associates of Cape Cod, Inc. (ACC) offers a full line of endotoxin and glucan detection products and services. *Limulus* Amebocyte Lysate (LAL) tests detect and quantify bacterial endotoxins extracted from the outer wall of gram negative bacteria. The critical component of the LAL reagents used in endotoxin tests is derived from blood cells (amebocytes) of the horseshoe crab, *Limulus polyphemus*. It contains the proteins of the blood clotting mechanism, which is triggered by endotoxins.

ACC Chromo-LAL

Endotoxin Kinetic Chromogenic Formulation

The Chromo-LAL lysate formulation, a co-lyophilized LAL and substrate reagent, is optimized for the kinetic chromogenic LAL test method in microplate readers. Chromo-LAL lysate is a buffered, stable and robust lysate, suitable for quantitative testing of a wide range of samples.



Sensitivity

The sensitivity of Chromo-LAL lysate, the kinetic chromogenic LAL assay, is defined as the lowest endotoxin concentration used in the endotoxin standard curve. The maximum sensitivity of Chromo-LAL is 0.005 EU/mL.

Sample:Lysate Ratio

In the Chromo-LAL test, reconstituted Chromo-LAL reagent can be used in a 100 μ L volume in a sample:lysate ratio of 1:1.

Test Performance

The Chromo-LAL/sample mixture is incubated at $37 \pm 1^\circ\text{C}$ in a microplate reader equipped with a 405 nm filter. Software is used to construct the standard curve and calculate the endotoxin concentrations.

Reconstitution

Chromo-LAL lysate is reconstituted with LAL Reagent Water (LRW). It can also be reconstituted with Glucashield™ buffer, a beta glucan inhibiting buffer, to render the assay endotoxin specific and prevent potential enhancement and false positives caused by glucans. Glucashield™ buffer is available separately.

| Product Number | Description | Pkg Size | Price |
|----------------|-------------|----------|---------|
| SKC0031 | Chromo-LAL | 3.2 mL | \$99.50 |

ACC Pyrochrome®

Endotoxin Chromogenic Test Kit

The Pyrochrome® lysate formulation is a versatile quantitative chromogenic reagent that is used to perform both kinetic and endpoint assays in microplate readers.

Sensitivity

The sensitivity for chromogenic assays is determined by the lowest standard concentration on the standard curve used for the assay. The maximum sensitivity of the Pyrochrome® lysate is 0.005 EU/mL.

Sample:Lysate Ratio

In the Pyrochrome® test, reconstituted Pyrochrome® LAL reagent can be used in 50 μ L or 100 μ L volumes in a sample:lysate ratio of 1:1.

Test Performance

The Pyrochrome®/sample mixture is incubated at $37 \pm 1^\circ\text{C}$ and read in a microplate reader equipped with a 405 nm filter or 540-550 nm filter for diazo method. Software is used to construct the standard curve and calculate the endotoxin concentrations.

Reconstitution

Pyrochrome® lysate is reconstituted with an optimized reaction buffer, included with each kit. Pyrochrome® lysate can also be reconstituted with Glucashield™ buffer, a beta glucan inhibiting buffer, to render the assay endotoxin specific and prevent potential enhancement and false positives caused by glucans. Glucashield buffer is available separately.

Diazo kits for Endotoxin end point testing

The Pyrochrome® kit is also offered in a diazo kit for end-point tests. The diazo reagents shift the optical absorbance wavelength making it especially useful for testing samples with color interference. The test is read at 540-550 nm.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| SKC1500 | Pyrochrome® Test Kit | 60 tests | \$109.70 |
| SKCD060 | Pyrochrome® Test Kit with Diazo-Reagents | 60 tests | 197.50 |

ACC ELx808™ MICROPLATE READER

The ELx808™ Incubating Microplate Reader can be used with Pyrochrome® lysate, Chromo-LAL lysate, or Pyrotell®-T lysate to perform chromogenic or turbidimetric assays. Software is sold separately. A computer is required.

This multi-channel incubating reader offers enhanced uniformity through independently monitored natural convection heaters and 4-zone temperature control for improved reproducibility in kinetic enzyme reactions.

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------------------------|----------|-------------|
| SKPPS04 | ELx808™* Incubating Microplate Reader | Each | \$10,578.00 |
| SKELXP | Universal Test Plate for ELx808™* | Each | 1,485.30 |

*Trademark of Bio-Tek Instruments, Inc.



ACC Pyrotell®-T

Turbidimetric Formulation

Pyrotell®-T lysate is used to quantify endotoxin in kinetic LAL tests. Pyrotell®-T lysate can be used with the Pyros Kinetix® tube reader and also incubating microplate readers. When used with the Pyros Kinetix® tube reader, Pyrotell®-T gives a highly economic, flexible and sensitive LAL assay. Pyrotell®-T lysate is the most sensitive LAL test available. It can be used for a wide variety of endotoxin tests, ranging from standard water testing to samples requiring high dilutions, such as intrathecal products and those requiring high dilutions to overcome interference.

Sensitivity

The sensitivity of any kinetic assay is determined by the lowest concentration used to construct the standard curve. The unique formulation of Pyrotell®-T lysate allows a wide range of standard curves to be used, giving the user flexibility, speed, and ease in performing assays. When used in a Microplate reader, the lowest sensitivity is 0.005 EU/mL; when used in a Pyros Kinetix® tube reader, the lowest sensitivity is 0.001 EU/mL; this is 5 times more sensitive than microplate reader assays.

Sample:Lysate Ratio

The ratio of sample to lysate is partly determined by the method used and partly by personal preference. A sample:lysate ratio for Pyrotell®-T of 1:1 and 4:1 can be used according to validation and instrumentation requirements.

Test Performance

The sample and lysate are added to test tubes or a Microplate and incubated at 37°C. The time of incubation is dependent on the lowest standard concentration in the standard curve. Software is used to construct the standard curve and calculate the endotoxin concentrations.

Reconstitution

Pyrotell®-T lysate may be reconstituted with 5 mL of LAL Reagent Water (LRW) (or equivalent), Pyrosol® buffer, or Glucashield™ buffer, depending on the demands of the sample being tested. Pyrosol® buffer provides extra pH buffering capacity. Glucashield™ buffer, a beta glucan inhibiting buffer is used to render the assay endotoxin specific and prevent potential enhancement and false positives caused by glucans. Glucashield™ buffer is available separately.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| SKT0051 | Pyrotell®-T <i>Sufficient for approximately 96 tests</i> (when used with the Pyros Kinetix® tube reader) or 48 tests (when used in a microplate reader). | 5 mL | \$87.50 |

ACC Pyrotell®

Gel-clot Formulation

Pyrotell® lysate was the first LAL gel-clot reagent licensed by the US FDA. It is easy to use and is available in both economical multi-test vials and convenient Single test Vials (STV's). Pyrotell® lysate is a robust reagent, producing firm, easily read clots and is resistant to interfering substances. The gel-clot test does not require sophisticated capital equipment and software and is the simplest LAL test to implement.



Sensitivity

Pyrotell® lysate is available in multiple sensitivities: 0.03 EU/mL; 0.06 EU/mL; 0.125 EU/mL; 0.25 EU/mL and 0.5 EU/mL (Single test vials only).

Sample/Lysate Ratio

For standard use, a 1:1 mixture of Pyrotell® lysate to sample is used.

Test Performance

For 2 mL and 5 mL multi-test vials, 100 µL of lysate is mixed with 100 µL of sample in a reaction tube. For single test vials 200 µL of sample is added to the vial, which serves as a reaction tube. Test tubes are incubated at 37°C for 60 minutes ± 2 minutes. A positive test is indicated if the clot remains solid after the inversion of the test tube.

Reconstitution

Pyrotell® lysate may be reconstituted with LAL Reagent Water, Glucashield™ buffer or Pyrosol® buffer. Glucashield™ buffer, a beta glucan inhibiting buffer is used to render the assay endotoxin specific and prevent potential enhancement and false positives caused by glucans. Glucashield™ buffer is available separately.

| Product Number | Description | Sensitivity | Pkg Size* | Price |
|----------------|----------------------|-------------|-----------|---------|
| SKG5003 | Multi-Test Pyrotell® | 0.03 EU/mL | 5 mL | \$83.50 |
| SKG5006 | Multi-Test Pyrotell® | 0.06 EU/mL | 5 mL | 83.50 |
| SKG5125 | Multi-Test Pyrotell® | 0.125 EU/mL | 5 mL | 83.50 |
| SKG5250 | Multi-Test Pyrotell® | 0.25 EU/mL | 5 mL | 83.50 |

* Pyrotell® is also available in multi-test 2 mL vials and single-test vials with variable sensitivities ranging from 0.03 up to 0.5 EU/mL. Please contact our Technical Support Department for the full range of Pyrotell® products.

ACC Pyros Kinetix® INCUBATING KINETIC TUBE READER

The Pyros Kinetix® tube reader was designed specifically for kinetic turbidimetric endotoxin testing. The instrument offers a 96 tube capacity. In addition, each well is independently timed, allowing the operator to add more samples while a run is in progress. Software is sold separately. A computer is required.

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------|----------|-------------|
| SKPKX02 | Incubating Kinetic Tube Reader | Each | \$16,953.30 |



ENDOTOXIN TESTING

MICROBIOLOGY

ACC LAL REAGENT WATER (LRW)

LRW is specially processed water intended for reconstitution of LAL reagents and CSE, and to dilute samples and standards for LAL assays. Not for human or animal injection.

| Product Number | Description | Pkg Size | Price |
|----------------|------------------------------------|----------|---------|
| SKW0051 | LAL Reagent Water | 5.5 mL | \$17.50 |
| SKW0504 | LAL Reagent Water | 50 mL | 28.80 |
| SKWP0501 | LAL Reagent Water (Plastic Bottle) | 50 mL | 15.90 |
| SKW1004 | LAL Reagent Water | 100 mL | 31.80 |

ACC Pyrosol® LAL RECONSTITUTION BUFFER

Pyrosol® buffer is an FDA Approved buffer recommended for reconstituting Pyrotell® or Pyrotell®-T lysate when testing strong electrolytes, strongly buffered solutions and solutions that are difficult to adjust within the required pH range using an acid or base. Pyrosol® buffer is also available with a pH indicator for gel-clot applications.

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|---------|
| SKBR051 | Pyrosol® Buffer with pH indicator | 5.5 mL | \$17.90 |
| SKBC051 | Pyrosol® Buffer without pH indicator | 5.5 mL | 18.90 |
| SKBC554 | Pyrosol® Buffer without pH indicator | 55 mL | 63.70 |



ACC Pyrotubes®

- Ideal for use with endotoxin testing products from Associates of Cape Cod (ACC)
- Certified to be free of interfering endotoxin and (1,3)-β-D-Glucan contamination
- Designed to reduce Out of Specification (OOS) investigations due to contaminated disposables

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| SKTS050 | 10 x 75 mm Soda Lime Glass Tube for Gel-Clot Method | 50 | \$41.80 |
| SKTB050 | 10 x 75 mm Borosilicate Glass Tube for Turbidimetric Method | 50 | 41.80 |
| SKTB240 | 12 x 75 mm Borosilicate Glass Tube for Dilutions | 40 | 41.80 |
| SKTB013 | 13 x 100 mm Borosilicate Glass Tube for Dilutions | 18 | 27.80 |
| SKTK100 | 8 x 75 mm Borosilicate Glass Tube for Pyros Kinetix Tube Reader | 100 | 39.30 |



ACC Glucashield™ BETA GLUCAN INHIBITING BUFFER

Glucashield™ buffer is used to reconstitute LAL and render the reagent insensitive to glucan interference by effectively blocking the Factor G pathway of the endotoxin clotting cascade. For use with Pyrotell® lysate (multi-test vials), Pyrotell®-T lysate, Pyrochrome® kits and Chromo-LAL lysate.

| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------------|----------|---------|
| SKGB051 | Beta Glucan Inhibiting Buffer | 5.5 mL | \$21.60 |

ACC CONTROL STANDARD ENDOTOXIN (CSE)

Standard controls for LAL testing

Control Standard Endotoxin (CSE) is a widely used standard for endotoxin testing. It is a purified extract of *E. coli*/O113:H10, the same endotoxin as the USP and EP reference standard endotoxin (RSE).

- CSE is a premium, stable, preparation of endotoxin that can be used in all LAL testing
- CSE is especially useful for depyrogenation studies, e.g., oven control vials
- Certificates of Analysis for each CSE-lysate lot combination give users greater security when testing because the potency is known precisely
- CSE can be reconstituted to achieve specific endotoxin concentrations

Reconstitution

CSE is reconstituted with LRW (or equivalent). Please refer to the Certificate of Analysis when using CSE. A Certificate of Analysis exists for each CSE-lysate lot combination.

| Product Number | Description | Pkg Size | Price |
|----------------|--|-------------|---------|
| SKE0005 | Control Standard Endotoxin - Escherichia coli O113:H10 | 0.5 µg | \$33.80 |
| SKE0125 | Control Standard Endotoxin - Escherichia coli O113:H10 | 125 µg | 95.30 |
| SKEC010 | Control Standard Endotoxin - Escherichia coli O113:H10 for use with Pyrochrome® kits | 5 x 10 ng | 71.60 |
| SKPC010 | Positive Control for Single Test Vial, CSE concentration is 0.1 ng/mL | 10 x 0.2 mL | 73.60 |

ACC Pyrosate® Kit

Rapid Endotoxin Detection*

The Pyrosate® kit is a major advance in LAL gel-clot testing. The assay does not require special training or laboratory supplies. The step-by-step illustrated instructions allow the user to perform assays within minutes. The Pyrosate® kit provides rapid results and is especially convenient for testing water and dialysate as no dilutions are required.

Sensitivity

The Pyrosate® kit is available in two sensitivities: 0.25 EU/mL and 1.0 EU/mL. These sensitivities can be achieved in less than 30 minutes, much less time than required for other gel-clot assays.

Test Performance

The Pyrosate® kit is the only rapid gel-clot test that contains a 2λ** endotoxin tube (PPC) matched to the sample (SPL) tube for each sensitivity. This feature is unique to the Pyrosate® assay and ensures the validity of the test. The endotoxin tube (PPC) assures that the sample does not interfere with the test, ruling out false negatives. The Pyrosate® kit was also designed to eliminate false positives due to LAL Reactive Materials such as (1→3)-β-D-glucans. This endotoxin specific LAL formulation does not require additional blocking buffers.

Reconstitution

Pyrosate® lysate is reconstituted directly with the sample by adding 0.5 mL to the sample (SPL) tube. After approximately 60 seconds of gentle mixing, 0.25 mL is transferred to the endotoxin (PPC) tube. The incubation time at 37°C is specified in the Certificate of Compliance.

| Product Number | Description | Sensitivity | Pkg Size* | Price |
|----------------|-------------|-------------|-----------|----------|
| SKPSD10 | Pyrosate® | 0.25 EU/mL | 10 tests | \$149.20 |
| SKPSD101 | Pyrosate® | 1.0 EU/mL | 10 tests | 149.20 |
| SKPSD25 | Pyrosate® | 0.25 EU/mL | 25 tests | 283.30 |
| SKPSD251 | Pyrosate® | 1.0 EU/mL | 25 tests | 283.30 |

- * May be used for all endotoxin testing applications not requiring FDA-licensed LAL.
- ** λ(lambda) is the least concentration of endotoxin to cause a positive test result under standard conditions.

ACC SOFTWARE

Pyros EQS Software

- Includes all of the features to enable compliance with 21 CFR Part 11
- Multiple access levels for improved security, detailed audit trails, and built-in trending by date range, technician, instrument, and LAL lot
- Runs the Pyros Kinetix® tube reader
- Incorporates electronic signatures, a Supervisor sign-off on completed tests, two choices for calculating CVs, and a new summarized Pass/Fail Report
- Windows® XP compatible

Gen5 Secure Software

- Customized 21 CFR Part 11 compliant software for use with the ELx808 Incubating Microplate Reader
- Designed workflow from reading parameters, to plate layout, to powerful data reduction and flexible data output options
- Flexible multi-user permission levels, electronic protocol and data signing
- Windows 2000/XP/Vista compatible

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------|----------|------------|
| SKPEQS11 | Pyros EQS Software | Each | \$4,513.70 |
| SKGEN5SECURE | Gen5 Secure Software | Each | 4,781.70 |

*Trademark of Bio-Tek Instruments, Inc.



Products are for Laboratory Research Use Only.

ACC VALIDATION PROTOCOLS AND VERIFICATION PACKAGE

Validation Protocols provide the end user with a comprehensive set of integrated documents to guide them through the system validation process. A Validation Plan outlines the tasks and documentation required to perform the validation. A Requirements Specification, the foundation of the validation process, clearly delineates the system's required functions and expected performance. Detailed instructions guide users step-by-step through the IQ/OQ, and PQ processes. Stress Test procedures are included as well as Change Control and Maintenance guides. A CD containing the protocol files in Microsoft® Word format allows users to edit the documents to meet their company's specific validation requirements.

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------------------------|----------|------------|
| SKPEQS11VAL | Pyros EQS Validation Protocol Package | Each | \$3,984.80 |

GLUCAN DETECTION

ACC GlucateLL® KIT

(1→3)-β-D-Glucan Detection

The GlucateLL® assay kit is specific for (1→3)-β-D-glucan. The assay is based upon a modification of the *Limulus* Amebocyte Lysate (LAL) pathway. The GlucateLL® reagent is modified to eliminate Factor C, and is therefore specific for (1→3)-β-D-glucan. The reagent does not react to other polysaccharides, including beta-glucans with different glycosidic linkages. The kits are available in both kinetic and end-point diazo formats.

Sample:Lysate Ratio

- Kinetic Assay:** 25 μL of sample or standard is mixed with 100 μL of reagent in a microplate.
- End-point Assay:** 50 μL of sample is mixed with 50 μL of reagent in a microplate.

Test Performance

Kinetic Assay: The GlucateLL®/sample mixture is incubated at 37°C ± 1°C in a microplate reader equipped with a 405 nm filter and analyzed over time by a suitable software program.

End-point Assay: The GlucateLL®/sample mixture is placed in a microplate heating block at 37°C ± 1°C for the recommended time period. 50 μL each of the three diazo reagents are added to the mixture to stop the reaction, which is then read at 540-550 nm. Concentration of the samples is analyzed by a suitable software program.

Packaging

The GlucateLL® kit is available as either an end-point or kinetic chromogenic assay for use in microplates. The kit contains the GlucateLL® reagent, a (1→3)-β-D-glucan standard, buffer, diazo reagents (end-point kit only), glucan-free water, and glucan-free microplates.

Product Applications

- Analyzing final products for (1→3)-β-D-glucan
- Investigating LAL Out of Specification results
- Qualifying raw materials
- Monitoring cellulosic filter extractables
- Monitoring fungal fermentation processes
- Analyzing fermentation and cell culture media
- Monitoring airborne glucan burden
- Monitoring immunological adjuvant studies (e.g. tumor therapy)



| Product Number | Description | Pkg Size | Price |
|----------------|---|-----------|----------|
| SKGT004 | GlucateLL® Kit Kinetic assay | 55 tests | \$368.50 |
| SKGT002 | GlucateLL® Kit Kinetic assay | 110 tests | 673.40 |
| SKGT003 | GlucateLL® Kit With diazo-reagents for end-point assays | 55 tests | 397.80 |
| SKGT001 | GlucateLL® Kit With diazo-reagents for end-point assays | 110 tests | 744.60 |



Principles of GlucateLL® reagent.

Amebocytes collected from the hemolymph of *Limulus polyphemus* are washed and then lysed. This lysate is processed to remove Factor C making the lysate specific for the glucan pathway. GlucateLL® is then formulated as a chromogenic lysate by adding Boc-Leu-Gly-Arg-pNA. (1→3)-β-D-glucan in the test sample (or standard) activates Factor-G, which then activates the proclotting enzyme. The clotting enzyme cleaves p-nitroaniline (pNA) from the chromogenic peptide substrate. The free pNA is measured at 405 nm (kinetic assay) or alternatively, the pNA is diazotized to form a compound that absorbs at 540-550 nm (endpoint assay). The GlucateLL® reagent is used in either a kinetic assay or an end-point assay.

MYCOPLASMA DETECTION AND ELIMINATION

MYCOPLASMA DETECTION AND ELIMINATION

Mycoplasmas are parasitic bacteria that frequently contaminate tissue cultures and consequently also virus stocks, vaccines, and other biological materials produced in cells. The contamination can originate from serum, laboratory staff, other contaminated cultures, or the donors from which the cells have been harvested, and it often remains unnoticed. Although mycoplasmas do not cause visible cell damage, they seriously affect cell growth and metabolism, transfection efficiency, protein and monoclonal antibody synthesis, cytokine secretion, immunological properties, signal transduction, virus proliferation and can even cause DNA and RNA damage.

PROMOCELL MYCOPLASMA TEST KIT

PCR Mycoplasma Test Kit I/C

The PCR Mycoplasma Test Kit I/C utilizes conventional PCR technology for convenient and specific detection of more than 25 contaminating mycoplasma species. The primer set is specific for the highly conserved 16S-rRNA coding region in the mycoplasma genome. The test can be performed in 3 hours and includes internal control DNA (for verifying a successful PCR run) as well as positive control DNA. All components required for the PCR (primers, nucleotides, internal control DNA) come optimally premixed and lyophilized in PCR tubes (except the Taq polymerase).

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------------------|----------|----------|
| PROPKCA911024 | PCR Mycoplasma Test Kit I/C | 24 tests | \$159.00 |
| PROPKCA911048 | PCR Mycoplasma Test Kit I/C | 48 tests | 299.00 |
| PROPKCA911096 | PCR Mycoplasma Test Kit I/C | 96 tests | 499.00 |

PROMOCELL DISINFECTANT

Mycoplasma-EX Spray

Mycoplasma-EX Spray allows safe disinfection and cleaning of all laboratory surfaces and apparatuses, including work benches, incubators, cell storage boxes, and liquid nitrogen containers. It utilizes the powerful Mycoplasma-EX reagent in combination with an alcohol-based solution. Besides its strong mycoplasmacidal activity, it is very effective against *Staphylococcus aureus*, *Streptococcus faecalis*, *Escherichia coli*, *Proteus mirabilis*, *Pseudomonas aeruginosa*, *Candida albicans*, *Mycobacteria*, *HBV/HIV*, *Papova*, *Adeno*, *Polio* and *Vaccinia* viruses.

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------|----------|---------|
| PROPKCC915050 | Mycoplasma-EX Spray | 500 mL | \$25.00 |
| PROPKCC915050L | Mycoplasma-EX Spray | 5 L | 199.00 |

GREINER MycoDtect™ MYCOPLASMA TEST KIT

MycoDtect™ test kit is based on the hybridization of fluorescently labeled mycoplasma targets to the MycoDtect™ DNA-array. A universal mycoplasma DNA-probe tests for the presence of all mycoplasma species (including *Acholeplasma spec.*, *Spiroplasma spec.* and *Ureaplasma spec.*). Simultaneously, nine species-specific probes detect which of the most common mycoplasma species may be present. This can then be used to identify and treat the source of contamination.

MycoDtect™ Features and Benefits

- Ready-to-use kit including PCR-Mastermix, DNA-chips, hybridization and wash buffers
- Rapid detection of all mycoplasma species
- Species-level identification of the nine most common mycoplasma contaminants
- Detects even low levels of contamination before they become more widespread
- Includes CheckReport™ software which automatically generates an electronic report as part of the testing process
- Can be used in conjunction with CheckScanner™ microarray scanner (sold separately)



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|-----------|
| GR463060 | MycoDtect™ kit for detection of mycoplasma | 60 tests | \$716.20 |
| GR862070 | CheckScanner™ microarray scanner | Each | 39,700.00 |

ROOM TEMPERATURE SAMPLE STORAGE

MICRONIC BIOMATRICA DNAsable®

Stabilize and store purified DNA at room temperature

DNAsable® enables you to preserve and store your purified DNA samples at room temperature for at least 30 years*. When you are ready to use your sample, it can be fully recovered in minutes without any additional purification steps.

Features

- Stabilize DNA at room temperature for at least 30 years*
- Recover quantitative yield and use without further purification
- Samples can be used in many downstream applications, e.g., PCR, Real-Time PCR, sequencing, microarrays

* Based on accelerated aging studies.

Benefits

- Saves laboratory space
- Easy sample handling
- Avoids freezer temperature fluctuations and sample degradation
- Smart back-up storage option



| Product Number | Description | Price |
|----------------|---|---------|
| MSMB10000 | DNAsable® Trial Kit, (3) DNAsable® tubes, 1 resealable sample pouch | \$36.20 |
| MSMB10001 | DNAsable® Tube Kit, (25) DNAsable® tubes, 1 resealable sample pouch | 103.00 |
| MSMB10002 | DNAsable® 96-well Plate**, (1) DNAsable® 96-well plate, 1 foil seal, 1 resealable | 60.40 |
| MSMB10004 | DNAsable® 384-Well Plate**, (1) 384-well plate | 114.70 |

** Larger package sizes and Alpha Numeric are also available — please inquire.

MICRONIC BIOMATRICA RNAsable®

Stabilize and ship RNA at room temperature

RNAsable® enables you to preserve and ship your total RNA, mRNA, and miRNA samples at room temperature. You can also store your RNA at room temperature for at least 12 years. When you are ready to use your sample, it can be fully recovered in minutes without any additional purification steps.

Benefits

Shipping at room temperature

- No dry ice required
- Reduced shipping cost
- Avoid temperature fluctuations

Store at room temperature

- Smart back up storage option

Compatible with any downstream application

- RT-PCR, RT-qPCR, Sequencing, microarrays



| Product Number | Description | Price |
|----------------|---|----------|
| MSMB10014 | RNAsable® Trial Kit, (3) RNAsable® tubes, (1) Tube Sterile Water, (1) resealable sample pouch | \$36.20 |
| MSMB10015 | RNAsable® Tube Kit**, (25) RNAsable® tubes, (1) Tube Sterile Water, (2) resealable sample pouches | 119.50 |
| MSMB10016 | RNAsable® 96-well Plate, (1) 96-well Plate, (2) Tubes Sterile Water, (1) resealable sample pouch | 119.50 |
| MSMB10017 | RNAsable® 96-well Plates Pack**, (10) 96-well Plate, (20) Tubes Sterile Water, (10) resealable sample pouches | 1,098.60 |
| MSMB10027 | Sample Storage Pouches, Set of (10) moisture barrier foil bags and dessicants | 18.10 |

** Larger package sizes and Alpha Numeric are also available — please inquire.

MICRONIC BIOMATRICA CloneStable®

Preserve and store bacterial DNA with CloneStable®

CloneStable® enables the long-term storage of unpurified bacterial plasmid and genomic DNA. DNA recovery is as simple as adding water.

CloneStable® protects the integrity of bacterial DNA at room temperature

- Transformation of crude E. coli lysates stabilized in CloneStable® at room temperature results in colony counts equivalent to freezer controls
- Zero sample degradation means increased reproducibility
- Room temperature storage decreases archive and transport cost

Streamlined clone handling

- Apply bacteria cultures directly to CloneStable®; no prior purification needed
- Store samples at room temperature
- Add water for rapid and complete sample recovery
- Use hydrated samples directly in downstream applications such as transformation and PCR amplification



| Product Number | Description | Price |
|----------------|--|---------|
| MSMB10018 | CloneStable® Trial Kit, (3) CloneStable® tubes | \$36.20 |
| MSMB10019 | CloneStable® Tube Kit, (25) CloneStable® tubes | 102.60 |
| MSMB10020 | CloneStable® 96-well Plate**, (1) 96-well plate | 60.40 |
| MSMB10022 | CloneStable® 384-Well Plate Pack, (1) 384-well plate | 119.50 |

** Larger package sizes and Alpha Numeric are also available — please inquire.

CHROMATIN IMMUNOPRECIPITATION

USB CHROMATIN IMMUNOPRECIPITATION (ChIP) ASSAY KIT

The Chromatin Immunoprecipitation (ChIP) assay is a powerful tool to study protein:DNA interactions in their native chromatin context. This technique enables researchers to identify where a given gene regulatory protein is bound in the genome of a living cell and the position within a regulatory region that is associated with histone modification. ChIP is becoming the method of choice for studying transcriptional regulation in eukaryotic cells.

ChIP Assay Kit Features and Benefits

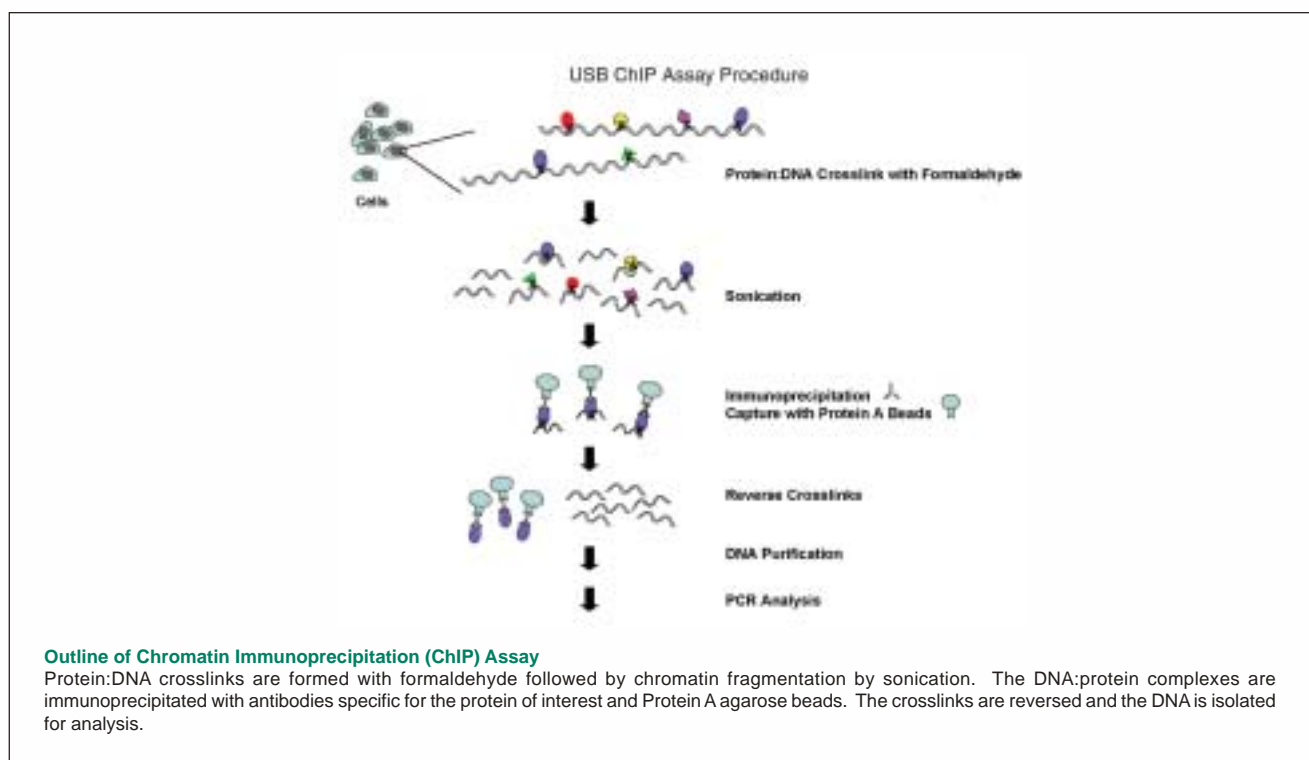
- Analyze in vivo interaction of protein-DNA in the genome
- Convenient kit provides functionally tested components
- Optimized reagent and protocol
- Recovered DNA can be analyzed using PCR or used as microarray probes



ChIP Method

- Intact cells are fixed with a reversible cross-linking reagent (ie. formaldehyde) to form protein:DNA complexes
- The chromatin is then mechanically sheared (ie. by sonication) to generate small protein:DNA fragments
- These fragments are immunoprecipitated with antibodies specific for the protein of interest and Protein A agarose beads
- Following immunoprecipitation, the crosslinks are reversed and the DNA is isolated. The isolated DNA can then be analyzed using primers designed to amplify a known regulatory region
- The versatility of ChIP means that screening can be done using generalized hybridization or a more targeted PCR-based approach

Although the ChIP assay is technically challenging, USB has developed an effective procedure and provides an optimized and convenient reagent set including buffers, Protease Inhibitor Cocktail, BSA/DNA pre-blocked Protein A agarose beads, Proteinase K and RNase A. Excess buffer is provided for the user to optimize conditions. The protocol is designed for cells grown on a 150 mm culture plate but smaller cultures can be used simply by scaling down.



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------------------|----------|
| UB78460 | Chromatin Immunoprecipitation (ChIP) Assay Kit Includes: Lysis Buffer High Salt Buffer Lithium Salt Buffer TE Buffer, pH 7.5 Elution Buffer Protease Inhibitor Cocktail, 100x Protein A Agarose Beads Proteinase K RNase A 1.25M Glycine 5M NaCl | Kit (25 ChIP assays) | \$322.30 |

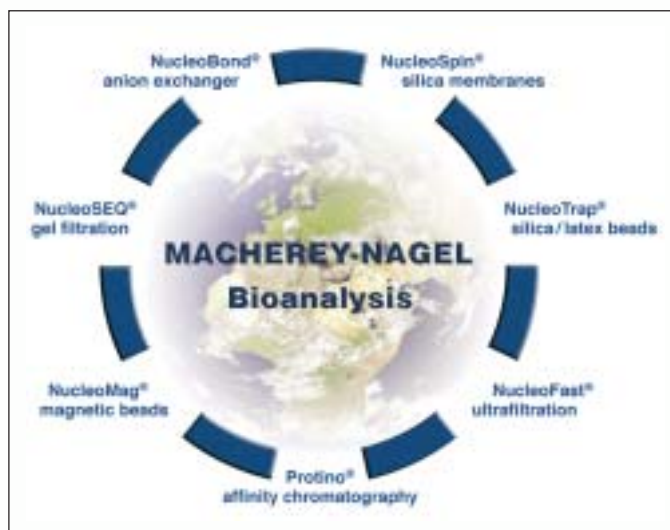
NUCLEIC ACID ISOLATION

MACHEREY-NAGEL BIOANALYSIS

Since 1993 Macherey-Nagel has been successfully developing and producing a comprehensive range of ready-to-use kits and consumables for purification of nucleic acids (DNA and RNA) and proteins. The products cover a broad range of applications and thus, allow a one-stop-shopping. They provide innovative bio-separation technologies and outstanding products for academic, industrial, and clinical research in the area of life science research, genomics, nucleic acid based molecular diagnostics, genetic identity (e.g. with a view to forensics, GMO detection / quantification as well as animal species differentiation), gene expression profiling, gene therapy, and proteomics.

The following technologies are the core of an extensive portfolio of ready-to-use kits and consumables suitable for manual and automated purification of highly pure nucleic acids and proteins.

- Silica-based anion exchanger — NucleoBond®
- Silica-based membrane technology — NucleoSpin®
- Beads based on silica or latex — NucleoTrap®
- Ultrafiltration technology — NucleoFast
- Magnetic beads — NucleoMag
- Affinity chromatography — Protino®
- Gel-filtration technology — NucleoSEQ



MACHEREY-NAGEL NucleoBond® PLASMID

Anion-exchange based DNA purification

NucleoBond® AX is a silica-based anion exchanger for routine separation of different classes of nucleic acids. The extraordinary high charge density on its hydrophilic, macroporous surface results in a salt concentration range for binding and elution of nucleic acids which is much larger than on conventional anion exchangers.

All NucleoBond® AX columns are resistant to organic solvents like alcohol, chloroform and phenol. They are free of RNase and DNase. NucleoBond® AX columns are easy to handle. Solutions are pipetted or just poured into the columns. Their flow through the exchanger bed is by gravity. The columns do not run dry.

- Anion-exchange chromatography
- Fast and versatile separation system
- Working range from nanograms to milligrams DNA
- Recovery of plasmid DNA > 90%



- NucleoBond® folded filters eliminate the centrifugation step - no shearing even for large constructs
- Structural integrity > 92% ccc monomer

| | NucleoBond® PC 20 | NucleoBond® PC 100 | NucleoBond® PC 500 | NucleoBond® PC 2000 | NucleoBond® PC 10,000 | NucleoBond® BAC 100 |
|---|----------------------|-----------------------|-----------------------|--------------------------|--------------------------|------------------------|
| Column Size | AX 20 | AX 100 | AX 500 | AX 2000 | AX 10,000 | BAC 100 |
| Format | Mini | Midi | Maxi | Mega | Giga | Maxi |
| Lysate Clarification | Centrifuge | Folded Filters | Folded Filters | Folded Filters | Folded Filters | Folded Filter |
| Sample Material <small>(high copy plasmid from <i>E. coli</i>)</small> | 1 – 5 mL | 5 – 30 mL | 30 – 150 mL | 150 – 2000 mL | 500 – 10,000 mL | N/A |
| Sample Material <small>(low copy plasmid from <i>E. coli</i>)*</small> | 3 – 10 mL | 10 – 100 mL | 100 – 500 mL | N/A | N/A | 100 – 500 mL |
| Vector Size | < 300 kbp | < 300 kbp | < 300 kbp | < 300 kbp | < 300 kbp | < 300 kbp |
| Typical Yield | 3 – 20 µg | 20 – 100 µg | 450 – 520 µg | 1700 – 2000 µg | 5000 – 9000 µg | 10 – 100 µg |
| A _{260/280} | 1.80 – 1.95 | 1.80 – 1.95 | 1.80 – 1.95 | 1.80 – 1.95 | 1.80 – 1.95 | 1.80 – 1.95 |
| Preparation Time | 60 min/4-6 preps | 65 min / 4-6 preps | 80-90 min/4 preps | 90-120 min/ 4-6 preps | 120-150 min/ 2 preps | 120 min/ 2-4 preps |
| Binding Capacity | 20 µg | 100 µg | 500 µg | 2000 µg | 10,000 µg | 100 µg |

* Increased buffer volumes required for low copy plasmids. See product number MCN740601 NucleoBond® Buffer Set I

Several kits are available to accommodate a wide range of purification needs:

- NucleoBond® PC kits contain NucleoBond® AX columns, all required buffers, reagents and accessories
- Nucleobond® PC EF (endotoxin-free) kits are available for purification of DNA with less than 0.1 EU/µg DNA for transfection of endotoxin-sensitive cells
- Nucleobond® BAC 100 Kit provides increased volumes of lysis buffers and RNase A for purification of large constructs (e.g. BACs, PACs, P1)

MACHEREY-NAGEL NucleoBond® Xtra Midi/Maxi

The new generation of anion-exchangers — ultra-fast plasmid preps with high yields

Macherey-Nagel has developed NucleoBond® Xtra, a new generation of anion exchangers based on the patented NucleoBond® technology. With NucleoBond® Xtra typical yields of $\geq 250 \mu\text{g}$ (Midi) or $\geq 1000 \mu\text{g}$ (Maxi) of ultra-pure plasmid DNA can be obtained in about half of the time when compared to other Midi and Maxi kits based on anion-exchange chromatography.

- Preparation time decreased by 60%
- Increased yield of transfection-grade plasmid DNA up to 100%
- Anion-exchange technology results in the highest purity of plasmid DNA
- NucleoBond® Xtra Plus kits contain NucleoBond® Finalizers that speed up DNA precipitation
- Optimized buffer compositions increase efficiency of alkaline lysis and flow rate resulting in an increase in DNA recovery
- NucleoBond® Xtra Midi/Maxi EF (endotoxin-free) kits are available for the purification of DNA with less than 0.05 EU/ μg DNA

NucleoBond® Xtra columns:

- High column flow through rates due to their large diameter and low silica resin bed
- Contain improved silica material with higher DNA binding capacity resulting in higher yields

| | NucleoBond® Xtra Midi | NucleoBond® Xtra Maxi |
|----------------------|--|---|
| Format | Gravity flow columns | Gravity flow columns |
| Lysate Clarification | Column Filters | Column Filters |
| Sample Material | < 200 mL (high copy) < 400 mL (low copy*) | < 600 mL (high copy) < 1200 mL (low copy*) |
| Vector Size | < 300 kbp | < 300 kbp |
| Typical Yield | 250 μg | 1000 μg |
| A _{260/280} | 1.80 – 1.95 | 1.80 – 1.95 |

| | Xtra Midi | Xtra Midi Plus | Xtra Maxi | Xtra Maxi Plus |
|---------------------------|--------------------|-----------------------|--------------------|-----------------------|
| Isopropanol Precipitation | Centrifuge | NucleoBond® Finalizer | Centrifuge | NucleoBond® Finalizer |
| Preparation Time | 68 min/ 4 preps | 28 min/ 4 preps | 80 min/ 4 preps | 34 min/ 4 preps |

* Increased buffer volumes required for low copy plasmids.
See product number MCN740417 NucleoBond® Xtra Buffer Set I

NucleoBond® Xtra Procedure



| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| MCN740571 | NucleoBond® PC 20 Kit Includes: NucleoBond® AX 20 Columns, Buffers and RNase A | Kit | \$148.40 |
| MCN740573 | NucleoBond® PC 100 Kit Includes: NucleoBond® AX 100 Columns, 20 Folded Filters, Buffers and RNase A | Kit | 206.30 |
| MCN740574 | NucleoBond® PC 500 Kit Includes: NucleoBond® AX 500 Columns, 10 Folded Filters, Buffers and RNase A | Kit | 197.30 |
| MCN740576 | NucleoBond® PC 2000 Kit Includes: NucleoBond® AX 2000 Columns, 5 Folded Filters, Buffers and RNase A | Kit | 232.10 |
| MCN740593 | NucleoBond® PC 10 000 Kit Includes: NucleoBond® AX 10 000 Columns, 5 Folded Filters, Buffers and RNase A | Kit | 432.90 |
| MCN740550 | NucleoBond® PC 500 EF Kit Includes: NucleoBond® AX 500 Columns, 10 Folded Filters, Buffers EF and RNase A | Kit | 287.80 |
| MCN740549 | NucleoBond® PC 2000 EF Kit Includes: NucleoBond® AX 2000 Columns, 5 Bottle Top Filters, Buffers EF and RNase A | Kit | 349.40 |
| MCN740548 | NucleoBond® PC 10 000 EF Kit Includes: NucleoBond® AX 10 000 Columns, 5 Bottle Top Filters, Buffers EF and RNase A | Kit | 567.30 |
| MCN740579 | NucleoBond® BAC 100 Kit Includes: NucleoBond® BAC 100 Columns, 10 Folded Filters, Buffers and RNase A | Kit | 292.50 |
| MCN740562 | NucleoBond® Small Rack For use with NucleoBond AX 20 Columns | Each | 64.70 |
| MCN740563 | NucleoBond® Small Rack For use with NucleoBond AX 100, 500, 2000 & 10,000 Columns | Each | 95.70 |
| MCN740601 | NucleoBond® Buffer Set I <i>Sufficient for 10 AX 500 columns and 20 AX 100 columns.</i> Set includes all buffers and RNase A | Set | 77.40 |
| MCN74041010 | NucleoBond® Xtra Midi Includes: NucleoBond® Xtra Midi Columns with inserted NucleoBond® Column Filter, 10 Buffers and RNase A | Kit | 114.60 |
| MCN74041210 | NucleoBond® Xtra Midi Plus Includes: NucleoBond® Xtra Midi Columns with inserted NucleoBond® Column Filter, 10 NucleoBond® Finalizers, 10 Buffers and RNase A | Kit | 140.30 |
| MCN74041410 | NucleoBond® Xtra Maxi Includes: NucleoBond® Xtra Midi Columns with inserted NucleoBond® Column Filter, 10 Buffers and RNase A | Kit | 229.80 |
| MCN74041610 | NucleoBond® Xtra Maxi Plus Includes: NucleoBond® Xtra Midi Columns with inserted NucleoBond® Column Filter, 10 NucleoBond® Finalizer Large, 10 Buffers and RNase A | Kit | 253.00 |
| MCN740415 | NucleoBond® Xtra Combi Rack | Each | 94.30 |
| MCN740417 | NucleoBond® Xtra Buffer Set I Includes: Buffer RES, LYS, NEU and RNase A | Set | 63.30 |

* Please contact our Technical Support Department for the full range of NucleoBond® and NucleoBond® Xtra plasmid purification kits, package sizes or to request a sample.

NUCLEIC ACID ISOLATION

MACHEREY-NAGEL NucleoSpin® PLASMID

Silica-membrane based DNA purification

NucleoSpin® technology is based on adsorption and desorption of nucleic acids in the presence of chaotropic salts. Under the hydrophobic conditions created by the chaotropic salts, DNA binds to the silica membrane. Proteins, metabolites and other contaminants do not bind to the membrane and therefore are removed during the washing steps.

NucleoSpin® Plasmid is designed for the rapid, small scale preparation of high-purity plasmid DNA. With the specific adsorption-desorption purification process of the time-saving silica membrane technology, highly pure DNA is ready-to-use for common downstream applications such as sequencing, PCR, restriction analysis, hybridization. The kit allows purification of up to 25 µg plasmid DNA per preparation from 1 - 5 mL of a saturated *E. coli* culture. Up to 40 µg of plasmid DNA can be obtained when processing 5 - 10 mL *E. coli* culture.

- Silica-membrane technology
- Yields up to 40 µg of ready-to-use plasmid DNA
- 85% to 95% recovery
- Sequencing grade plasmid DNA suitable for any kind of enzymatic reaction
- Fast procedure: 18 minipreps in 25 minutes



NucleoSpin® Plasmid Procedure

The NucleoSpin® Plasmid QuickPure column features a new specially treated silica membrane which allows to speed up the procedure by a combined washing/drying step. Contaminants like salts, metabolites, nucleases and soluble macromolecular cellular components are removed by a single washing step with buffer AQ.

- Yields up to 15 µg of ready-to-use plasmid DNA
- Ultra-fast procedure: 18 minipreps in 11 minutes

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| MCN74058810 | NucleoSpin® Plasmid Kit, 10 preps Includes: NucleoSpin® Plasmid Columns, 2 mL Collecting Tubes, Buffers and RNase A | Kit | \$22.80 |
| MCN74058850 | NucleoSpin® Plasmid Kit, 50 preps | Kit | 83.60 |
| MCN740588250 | NucleoSpin® Plasmid Kit, 250 Preps | Kit | 286.40 |

* Please contact our Technical Support Department for the full range of NucleoSpin® Plasmid Purification kits, package sizes or to request a sample.

MACHEREY-NAGEL NucleoSpin® PLANT II AND 96 PLANT II

Versatile Genomic DNA purification

NucleoSpin® Plant kits are designed for the isolation of genomic DNA from plant material, fungi and other biological samples, e.g. soil. The eluted DNA is ready-to-use for subsequent reactions such as PCR and restriction analysis.

- Complete removal of PCR inhibitors
- Typical yields of 1 - 30 µg DNA
- Two alternative lysis buffers for optimal processing of various samples
- Time-saving 96-well format for manual or automated isolation available

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------------|----------|
| MCN74077010 | NucleoSpin® Plant II Kit, 10 Preps <i>For sample sizes of up to 100 mg</i> Includes: NucleoSpin® Plant II Columns, Filters, 2 mL Collecting Tubes, Buffers** and RNase A | Kit | \$38.00 |
| MCN74077050 | NucleoSpin® Plant II Kit, 50 Preps | Kit | 168.80 |
| MCN740770250 | NucleoSpin® Plant II Kit, 250 Preps | Kit | 596.80 |
| MCN7406632 | NucleoSpin® 96 Plant II Includes: Binding plates, MN Square-well Blocks, Racks with Tube Strips, Cap Strips, Gas-permeable Foil, Buffers, RNase A | 2 x 96 plates | 432.10 |
| MCN7406634 | NucleoSpin® 96 Plant II | 4 x 96 plates | 802.40 |
| MCN74066324 | NucleoSpin® 96 Plant II | 24 x 96 plates | 4,478.00 |

Please contact our Technical Support Department for the full range of NucleoSpin® Plant kits, package sizes or to request a sample.

** Includes both lysis buffer PL1 (CTAB lysis method) and lysis buffer PL2 (SDS lysis method).

MACHERY-NAGEL NucleoSpin® BLOOD

DNA purification from whole blood

NucleoSpin® Blood Kits are designed for rapid purification of genomic DNA from whole blood, serum, plasma, and body fluids (amniotic fluid, etc.). Animal or human blood samples with citrate, EDTA, heparin, or CPDA, and frozen blood samples can be processed conveniently.

The obtained DNA can be used directly for PCR (e.g. HLA typing), southern blotting or any kind of enzymatic reaction.

- Silica-membrane technology
- Complete removal of PCR inhibitors
- DNA ready to use in less than 30 minutes
- Sample size: up to 200 µL
- Typical yield: 4 - 6 µg DNA
- Available in 3 column sizes

The NucleoSpin® Blood QuickPure Kit features a new specially treated silica membrane which allows speeding up the procedure by combining washing/drying steps. Hands-on time is less than 10 minutes.



| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| MCN74095110 | NucleoSpin® Blood Kit, 10 Preps <i>For sample sizes of up to 200 µL</i> Includes: NucleoSpin® Blood Columns, 2 mL Collection Tubes, Buffers and Proteinase K | Kit | \$31.70 |
| MCN74095150 | NucleoSpin® Blood Kit, 50 Preps <i>For sample sizes of up to 200 µL</i> Includes: NucleoSpin® Blood Columns, 2 mL Collection Tubes, Buffers and Proteinase K | Kit | 123.90 |
| MCN74056910 | NucleoSpin® Blood QuickPure Kit, 10 Preps <i>For sample sizes of up to 200 µL</i> Includes: NucleoSpin® Blood QuickPure Columns, 2 mL Collection Tubes, Buffers and Proteinase K | Kit | 31.70 |
| MCN74056950 | NucleoSpin® Blood QuickPure Kit, 50 Preps <i>For sample sizes of up to 200 µL</i> Includes: NucleoSpin® Blood QuickPure Columns, 2 mL Collection Tubes, Buffers and Proteinase K | Kit | 125.10 |
| MCN74095420 | NucleoSpin® Blood L Kit, 20 Preps <i>For sample sizes of up to 2 mL</i> Includes: NucleoSpin® Blood L Columns, 15 mL Collection Tubes, 15 mL Elution Tubes, Buffers and Proteinase K | Kit | 153.00 |
| MCN74095010 | NucleoSpin® Blood XL Kit, 10 Preps <i>For sample sizes of up to 10 mL</i> Includes: NucleoSpin® Blood XL Columns, 50 mL Collection Tubes, 50 mL Elution Tubes, Buffers and Proteinase K | Kit | 153.00 |

* Please contact our Technical Support Department for the full range of NucleoSpin® Blood kits, package sizes or to request a sample.

MACHERY-NAGEL NucleoSpin® TISSUE

Rapid purification of genomic DNA from tissue

NucleoSpin® Tissue is designed for the rapid purification of highly pure genomic DNA from tissue samples, mouse tails, bacteria, yeast, forensic samples (hair, dried blood spots, buccal swabs, cigarette filters), and clinical samples (stool, urine). The obtained DNA can be used directly for PCR, Southern blotting or any kind of enzymatic reaction.

- Silica-membrane technology
- Sample size: up to 25 mg tissue or 10⁷ cells
- Yield: up to 35 µg genomic DNA
- Spin columns can be closed - no cross contamination
- Elution volume: 100 µL



| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| MCN74095210 | NucleoSpin® Tissue Kit, 10 Preps Includes: NucleoSpin® Tissue Columns 2 mL Collecting Tubes Buffers and Proteinase K | Kit | \$31.70 |
| MCN74095250 | NucleoSpin® Tissue Kit, 50 Preps Includes: NucleoSpin® Tissue Columns 2 mL Collecting Tubes Buffers and Proteinase K | Kit | 136.00 |

* Please contact our Technical Support Department for the full range of NucleoSpin® Tissue kits, package sizes or to request a sample.

MACHERY-NAGEL NucleoSpin® DNA TRACE

DNA isolation from forensic samples

NucleoSpin® DNA Trace is designed for the preparation of highly pure genomic DNA from small amounts of any tissue, cell and forensic sample. DNA amounts in the nanogram range can be processed with high recovery.

Isolated DNA is ready-to-use for common downstream applications like PCR, real-time PCR or other enzymatic reactions.

- Samples can be extracted with up to 8 mL lysis buffer
- Small elution volume: 100 µL
- Closed system - no cross contamination

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| MCN7409424 | NucleoSpin® DNA Trace Kit, 4 Preps Includes: NucleoSpin® Funnel Columns 50 mL Polyethylene Tubes with screw caps 0.5 mL Elution Tubes Buffers and Proteinase K | Kit | \$108.10 |
| MCN74094225 | NucleoSpin® DNA Trace Kit, 25 Preps Includes: NucleoSpin® Funnel Columns 50 mL Polyethylene Tubes with screw caps 0.5 mL Elution Tubes Buffers and Proteinase K | Kit | 432.40 |

* Please contact our Technical Support Department for the full range of NucleoSpin® DNA Trace kits, package sizes or to request a sample.

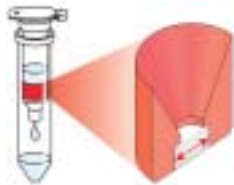
NUCLEIC ACID ISOLATION

MACHERY-NAGEL NucleoSpin® Plasma XS

For rapid purification of circulating DNA from plasma and serum

NucleoSpin® Plasma XS is designed for the isolation of fragmented DNA larger than 50 bp from human EDTA blood plasma. The kit is overcoming the limitations of conventional kits such as large membrane diameter associated with large default elution volumes and a resulting DNA concentration which is too low to be directly used as PCR template.

The innovative new thrust ring in a funnel-design allows standard mini prep spin columns to hold a silica membrane of very small diameter. The small diameter of the NucleoSpin® Plasma XS membrane allows efficient elution in only 5 – 20 µL resulting in highest DNA concentrations that are ready for all typical downstream applications.



- High recovery of fragments > 50 bp
- Elution in only 5 µL
- Concentrated DNA even from dilute samples
- DNA ready-to-use for real-time PCR

NucleoSpin® Plasma XS procedure



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| MCN74090010 | NucleoSpin® Plasma XS, 10 Preps Includes: NucleoSpin® Plasma XS Columns, 10 Collection Tubes (2 mL), 10 Buffers and Proteinase K | Kit | \$34.20 |
| MCN74090050 | NucleoSpin® Plasma XS, 50 Preps Includes: NucleoSpin® Plasma XS Columns, 50 Collection Tubes (2 mL), 50 Buffers and Proteinase K | Kit | 157.00 |
| MCN740900250 | NucleoSpin® Plasma XS, 250 Preps Includes: NucleoSpin® Plasma XS Columns, 250 Collection Tubes (2 mL), 250 Buffers and Proteinase K | Kit | 694.50 |

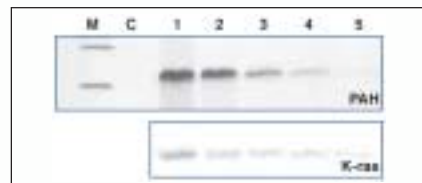
MACHERY-NAGEL NucleoSpin® Tissue XS

Purification of genomic, bacterial, and viral DNA from smallest samples

The NucleoSpin® Tissue XS kit is designed for the efficient isolation of genomic DNA from small samples of different kinds of cells and tissues, such as laser micro-dissected samples, small amounts of blood, or dried blood spots and forensic samples. Due to a special funnel design the NucleoSpin® Tissue XS columns allow very small elution volumes (5 - 30 µL) which results in highly concentrated DNA.

- High sensitivity for DNA isolation from small sample amounts
- Elution in only 5 µL resulting in concentrated DNA
- Reliable DNA purification for reproducible results
- High purity - DNA ready-to-use for multiplex PCR and other sensitive applications

| | |
|----------------------------|---|
| Sample material | Tissue samples: 0.025-10 mg Blood samples: 1-30 µL, fresh or frozen Cultured cells: 10-10,000 FFPE tissue: 0.001-10 mg Guthrie cards: spots of 5-30 mm ² |
| Fragment size | 200 bp- >30 kbp |
| Typical yield | 100 HeLa cells: 0.1-0.5 ng 1000 HeLa cells: 1-5 ng 10000 HeLa cells: 10-50 ng 0.025 mg mouse liver: 20-100 ng 0.25 mg mouse liver: 200-1000 ng 2.5 mg mouse liver: 600-3000 ng |
| A_{260/280} | 1.7-1.9 |
| Elution volume | 5-30 µL |
| Preparation time | ~ 40 min/prep (excl. lysis) |



M: DNA ladder
C: negative control without DNA
1: 1 mm²
2: 0.5 mm²
3: 0.25 mm²
4: 0.125 mm²
5: 0.065 mm²

DNA purification from microdissected, formalin fixed paraffin-embedded (FFPE) Tissue. DNA was purified from microdissected FFPE colon cancer tissue with NucleoSpin® Tissue XS. Sample sizes were 1 mm², 0.5 mm², 0.25 mm², 0.125 mm², and 0.065 mm² of a 4 µm slice. DNA was eluted in 15 µl and subjected to PCR with PAH and K-RAS specific primers. NucleoSpin® Tissue XS allows purification of amplifiable DNA even from very small samples of FFPE tissue.

Data kindly provided by S. Staeck, Dr. D. Kuester, Dr. A. Poehlmann and Prof. R. Schneider-Stock, Department of Pathologie, Molecular Genetics, University of Magdeburg, Germany.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| MCN74090110 | NucleoSpin® Tissue XS, 10 Preps Includes: NucleoSpin® Plasma XS Columns, 10 Collection Tubes (2 mL), 10 Buffers and Proteinase K | Kit | \$40.50 |
| MCN74090150 | NucleoSpin® Tissue XS, 50 Preps Includes: NucleoSpin® Plasma XS Columns, 50 Collection Tubes (2 mL), 50 Buffers and Proteinase K | Kit | 169.30 |
| MCN740901250 | NucleoSpin® Tissue XS, 250 Preps Includes: NucleoSpin® Plasma XS Columns, 250 Collection Tubes (2 mL), 250 Buffers and Proteinase K | Kit | 757.40 |

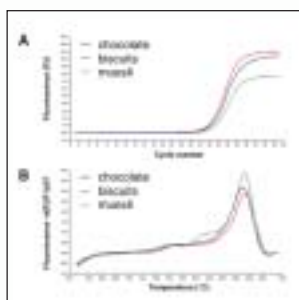
MACHERY-NAGEL NucleoSpin® FOOD

For rapid small-scale isolation of genomic DNA from food and feed

Identification of GMO-DNA or animal components in food and feed has become an important application of public interest. In the novel food regulation, labeling has been mandatory for GMO containing food since they can be distinguished from conventional products by analytical methods, e.g. real-time PCR. Food samples are very heterogeneous and contain many different compounds like fat, cocoa or polysaccharides which can lead to suboptimal extraction or subsequent processing of DNA. Macherey-Nagel NucleoSpin® Food guarantees good recovery rates even for small genomic DNA fragments (< 1 kb) out of processed, complex food matrices (e.g. ketchup or spices), which generally have very low DNA contents as well as poor quality, degraded DNA.

- Complete removal of PCR inhibitors resulting in high quality DNA
- Even low amounts of partially degraded DNA can be purified from complex matrices
- Fast and easy procedure
- DNA from various sample materials giving the highest flexibility

| Type of Sample | Starting Material |
|----------------------|--|
| Food (plant origin) | <ul style="list-style-type: none"> • Raw products such as maize, rape seed, etc. • Chocolate products, cocoa, nougat products • Breakfast cereals, muesli, nut/chocolate spread • Jam and fruit concentrates • Cookies, cakes and biscuits • Pollen • Lecithin • Spices • Bread |
| Food (animal origin) | <ul style="list-style-type: none"> • Raw and processed products (meat, sausage, pie) |
| Pharmaceuticals | <ul style="list-style-type: none"> • Plant (starch) compounds in pharmaceuticals (e.g. tablets) |
| Cosmetics | <ul style="list-style-type: none"> • Plant and animal ingredients in products such as creams or powders |
| Bacteria | <ul style="list-style-type: none"> • Starter cultures |



DNA analysis with LightCycler™ technology

NucleoSpin® Food purified DNA from three matrices was amplified with lectin-specific primers and SYBR-Green detection mode in a LightCycler system (A). Specific amplification was verified by a melting point analysis (B).

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| MCN74094510 | NucleoSpin® Food, 10 Preps Includes: NucleoSpin® Food XS Columns, 10 Collection Tubes (2 ml), 10 Buffers, and Proteinase K | Kit | \$36.70 |
| MCN74094550 | NucleoSpin® Food, 50 Preps Includes: NucleoSpin® Food Columns, 50 Collection Tubes (2 ml), 50 Buffers, and Proteinase K | Kit | 171.20 |
| MCN740945250 | NucleoSpin® Food, 250 Preps Includes: NucleoSpin® Food Columns, 250 Collection Tubes (2 ml), 250 Buffers, and Proteinase K | Kit | 619.70 |

MACHERY-NAGEL NucleoBond® RNA/DNA

Purify DNA and RNA from the same sample

NucleoBond® RNA/DNA 80 and 400 kits are designed for the isolation and purification of up to 80 or 400 µg ultra-pure total RNA. A special manufacturing process guarantees RNase-free handling. Due to the superior resolving power of the NucleoBond® anion exchanger, contaminations are washed away, and RNA and genomic DNA can be eluted separately.

- Anion-exchange chromatography
- Ultra-pure RNA from different sources
- Separate elution of genomic DNA is possible
- Isolation of different RNA species
- No organic solvents required

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| MCN740650 | NucleoBond® RNA/DNA 80 Kit Sufficient for 25 Preps Includes: NucleoBond® AXR 80 Columns Buffers | Kit | \$205.00 |
| MCN740651 | NucleoBond® RNA/DNA 400 Kit Sufficient for 10 Preps Includes: NucleoBond® AXR 400 Columns Buffers | Kit | 136.20 |

MACHERY-NAGEL NucleoSpin® RNA/DNA BUFFER SET

Selective isolation of DNA or RNA from the same sample

Selective isolation of RNA and DNA from unique, precious samples is in demand for an increasing number of applications. Commonly, two independent preparations - one for RNA and one for DNA - are performed after splitting a sample. For certain samples, however, splitting is unfavorable if not impossible, e.g. biopsy samples or single individuals of small organisms (e.g. insects, worms). The NucleoSpin® RNA/DNA Buffer Set in combination with NucleoSpin® RNA II or NucleoSpin® RNA Plant, enables the separated isolation of RNA and DNA from one lysate and from one spin column.

The isolated DNA is...

- Eluted in low salt buffer (<10 mM bivalent cation, pH 7)
- PCR-grade: digestible with restriction enzymes
- Approximately 65% of the yield compared to a specialized kit

The eluted RNA is...

- Of the same quality and quantity when compared to the standard protocol

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| MCN740944 | NucleoSpin® RNA/DNA Buffer Set Sufficient for 100 DNA isolations in combination with NucleoSpin® RNA II or RNA Plant Kits Includes: Buffers, DNA Elute and DNA Wash | Kit | \$76.00 |

USB YEAST PLASMID ISOLATION KIT

This reagent kit is a miniprep kit for yeast cells. It is designed for the isolation of 2µ plasmids from yeast patches on plates or from yeast grown in small liquid culture. The isolation protocol eliminates the need for phenol/chloroform extraction, glass bead disruption and column elution. The isolated plasmid DNA can be used for PCR amplification, bacterial transformation or for direct sequencing.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| UB79220 | Yeast Plasmid Isolation Kit Includes: Enzyme Solution Spheroplast Solution Lysis Solution Precipitation Solution | 50 preps | \$139.30 |

NUCLEIC ACID ISOLATION

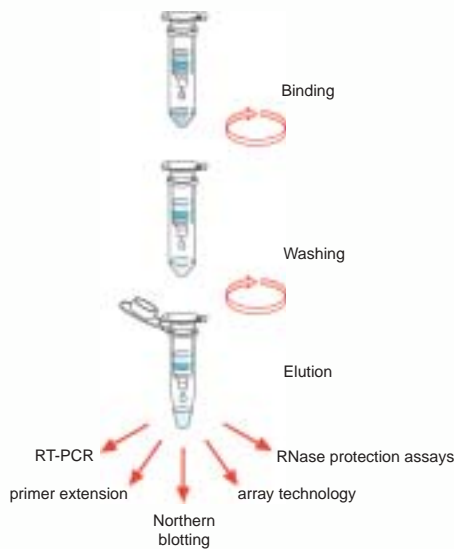
MACHEREY-NAGEL NucleoSpin® RNA CLEAN-UP

Total RNA for Microarrays

NucleoSpin® RNA Clean-up kits are recommended for the clean-up of total RNA from RNA preparations which contain unacceptable amounts of RT-PCR inhibitors, making it suitable for microarrays. It is further recommended for the isolation of RNA from small amounts of cultured cells whenever copurification of some genomic DNA is acceptable. The kits allow purification of pure RNA with an $A_{260/280}$ ratio generally exceeding 1.9 (measured in TE buffer (pH 7.5)).

NucleoSpin® RNA Clean-up kits are also recommended for the clean-up of RNA from enzymatic reactions like in vitro transcribed RNA, amplification reactions (e.g. Amino-Allyl-mRNA Amplification Kit), biotinylated RNA or fluorescent (Cy dye) labeled RNA.

- Silica-membrane technology: fast and easy to perform
- Binding capacity: up to 200 µg RNA
- RNA is suitable for all common downstream applications
- Elution volume: 40 - 120 µL (default volume: 60 µL)



NucleoSpin® RNA Cleanup Procedure

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| MCN74094810 | NucleoSpin® RNA Clean-up Kit, 10 Preps Includes: NucleoSpin® RNA Columns 2 mL Collecting Tubes 1.5 mL Microcentrifuge Tubes Buffers RNase-free Water | Kit | \$48.10 |
| MCN74094850 | NucleoSpin® RNA Clean-up Kit, 50 Preps Includes: NucleoSpin® RNA Columns 2 mL Collecting Tubes 1.5 mL Microcentrifuge Tubes Buffers RNase-free Water | Kit | 184.60 |

Please contact our Technical Support Department for the full range of NucleoSpin® RNA Clean-up kits, package sizes, or to request a sample.

MACHEREY-NAGEL NucleoSpin® RNA/Protein

Total RNA and protein from one lysate

The NucleoSpin® RNA/Protein Kit enables isolation of RNA and protein from diverse sample types. Protein and RNA are isolated without splitting the sample prior to extraction. Thus, protein and RNA are obtained from one and the same sample and not from two similar portions of one sample. This is especially valuable for unique, small and precious samples. Isolated RNA is suitable for all common downstream applications. RNA isolated with the NucleoSpin® RNA/Protein Kit is of identical quality as RNA isolated with the well proven NucleoSpin® RNA II Kit. Isolated protein is immediately suitable for SDS-PAGE and Western blot analysis.

- RNA and Protein from one lysate
- Simple and fast procedure — no phenol, no chloroform, no acetone
- High quality RNA — RNA is suitable for all common downstream applications e.g. RT-PCR, blotting, or microarray
- Parallel DNA purification possible — kits can be combined with the optional NucleoSpin® RNA/DNA buffer set



NucleoSpin® RNA/Protein Procedure

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| MCN74093310 | NucleoSpin® RNA/Protein Kit, 10 Preps Includes: NucleoSpin® RNA/Protein Columns with Collecting Tubes NucleoSpin® Collecting Tubes 1.5 mL Microcentrifuge Tubes Protein Precipitator Reducing Agent Buffers RNase-free rDNAase I RNase-free Water | Kit | \$77.30 |
| MCN74093350 | NucleoSpin® RNA/Protein Kit, 50 Preps Includes: NucleoSpin® RNA/Protein Columns with Collecting Tubes NucleoSpin® Collecting Tubes 1.5 mL Microcentrifuge Tubes Protein Precipitator Reducing Agent Buffers RNase-free rDNAase I RNase-free Water | Kit | 306.30 |

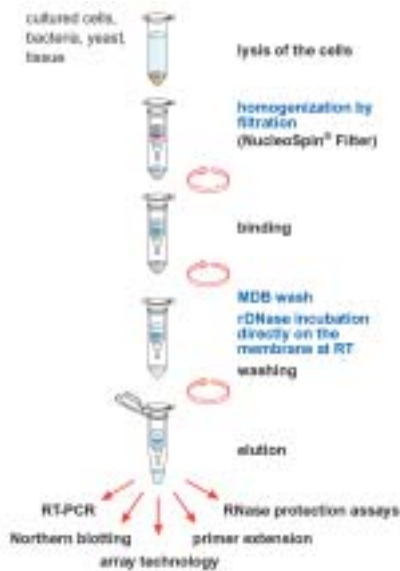
Please contact our Technical Support Department for the full range of NucleoSpin® RNA/Protein kits, package sizes, or to request a sample.

MACHEREY-NAGEL NucleoSpin® RNA II

Total RNA purification got easier

NucleoSpin® RNA II is recommended for isolation of total RNA from cultured cells, tissue, bacteria, yeast, cell-free biological fluids and reaction mixtures. This kit allows purification of up to 70 µg of highly pure, DNA-free total RNA. Total RNA prepared with NucleoSpin® RNA II is suitable for applications like RT-PCR, Northern blotting, primer extension, array technology or RNase protection assays. Hands-on time for total RNA preparation from cultured cells or tissue is less than 30 minutes.

- Silica-membrane technology: fast and easy to perform
- RNA is suitable for all common downstream applications
- Yields up to 70 µg ready-to-use total RNA
- Binding capacity: up to 200 µg RNA
- Elution volume: 40 - 100 µL (default volume: 60 µL)
- rDNase included for removal of genomic DNA
- NucleoSpin® Filters for homogenization and reduction of lysate viscosity included
- MDB (Membrane Desalting Buffer) for an optimized rDNase digest



NucleoSpin® RNA II Procedure

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| MCN74095510 | NucleoSpin® RNA II Kit, 10 Preps Includes: NucleoSpin® RNA Columns 2 mL Collecting Tubes 1.5 mL Microcentrifuge Tubes Filters Buffers RNase-Free rDNase DNase I Reaction Buffer RNase-Free Water | Kit | \$69.70 |
| MCN74095550 | NucleoSpin® RNA II Kit, 50 Preps | Kit | 265.50 |
| MCN740955250 | NucleoSpin® RNA II Kit, 250 Preps | Kit | 1,128.80 |

Please contact our Technical Support Department for the full range of NucleoSpin® RNA II kits, package sizes, or to request a sample.

MACHEREY-NAGEL NucleoSpin® RNA PLANT

RNA extractions designed for plants

NucleoSpin® RNA Plant is designed for isolation of DNA-free high-quality RNA from a wide variety of plant and fungal samples. The working procedure is similar to the NucleoSpin® RNA II method, removal of contaminating DNA is achieved by effective rDNase digest during the purification process.

- Silica-membrane technology
- RNA is suitable for all common downstream applications
- Yields up to 70 µg ready-to-use total RNA
- Elution volume: 60 µL
- rDNase included for removal of genomic DNA
- MDB (Membrane Desalting Buffer) for an optimized rDNase digest
- Two alternative lysis buffers included
- NucleoSpin® Filters for homogenization and reduction of lysate viscosity included

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| MCN74094910 | NucleoSpin® RNA Plant Kit, 10 Preps Includes: NucleoSpin® RNA Columns 2 mL Collecting Tubes 1.5 mL Microcentrifuge Tubes Filters Buffers RNase-Free rDNase DNase I Reaction Buffer RNase-Free Water | Kit | \$57.00 |
| MCN74094950 | NucleoSpin® RNA Plant Kit, 50 Preps | Kit | 217.40 |
| MCN740949250 | NucleoSpin® RNA Plant Kit, 250 Preps | Kit | 955.00 |

Please contact our Technical Support Department for the full range of NucleoSpin® RNA Plant kits, package sizes, or to request a sample.

MACHEREY-NAGEL NucleoSpin® miRNA SMALL AND LARGE RNA ISOLATION

MicroRNA extraction without phenol/chloroform

- Parallel isolation of small and large RNA from human/animal tissue and cultured cells
- Parallel isolation of small and large RNA from plant tissue
- Parallel isolation of small and large RNA in combination with phenol/chloroform (e.g., TRIzol®) lysis
- Purification of siRNA and large dsRNA from DICER reactions
- RNA suitable for real-time RT-PCR, Northern Blot, chip hybridization, etc.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| MCN74097110 | NucleoSpin® miRNA, 10 preps Includes: NucleoSpin RNA Columns NucleoSpin miRNA Columns NucleoSpin Filters NucleoSpin Protein Removal Columns Collection Tubes Buffers RNase-Free rDNase | Kit | \$80.20 |
| MCN74097150 | NucleoSpin® miRNA, 50 preps | Kit | 291.60 |
| MCN740971250 | NucleoSpin® miRNA, 250 preps | Kit | 1,201.20 |

NUCLEIC ACID ISOLATION

MOLECULAR BIOLOGY

MACHEREY-NAGEL NucleoSpin® RNA Virus

For rapid purification of viral RNA and DNA* from cell-free biological fluids

NucleoSpin® RNA Virus is designed for the isolation of viral nucleic acids from serum, plasma or any cell-free biological fluids. NucleoSpin® RNA Virus features a special type of membrane which has a high binding capacity for nucleic acids. NucleoSpin® RNA Virus is suited for the simultaneous purification of viral RNA and DNA when combined with a supporting protocol.

- Reliable and reproducible isolation of viral RNA and DNA* - free of impurities
- Proven for a large variety of viruses including HCV, HIV, Bird Flu Virus, Blue Tongue Virus
- Carrier-RNA included for highest sensitivity in downstream applications

* For parallel isolation of viral RNA and DNA use of Proteinase K required (*not included in the kit*)

| | |
|------------------|---|
| Sample material | 150 µL serum, plasma, cell-free biological fluids |
| Fragment size | 100 bp- >30 kbp |
| Typical recovery | >90% |
| Elution volume | 50 µL |
| Preparation time | 30 min/4-6 preps |
| Binding capacity | 40 µg |



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| MCN74095610 | NucleoSpin® RNA Virus, 10 Preps Includes: NucleoSpin® RNA Virus Columns, 10 Collection Tubes (2 mL), 10 Buffers, and Carrier RNA | Kit | \$46.90 |
| MCN74095650 | NucleoSpin® RNA Virus, 50 Preps Includes: NucleoSpin® RNA Virus Columns, 50 Collection Tubes (2 mL), 50 Buffers, and Carrier RNA | Kit | 167.20 |
| MCN740956250 | NucleoSpin® RNA Virus, 250 Preps Includes: NucleoSpin® RNA Virus Columns, 250 Collection Tubes (2 mL), 250 Buffers, and Carrier RNA | Kit | 689.60 |
| MCN740506 | Proteinase K | 100 mg | 84.50 |

In addition to purifying high-quality genomic DNA from blood, the NucleoSpin® Blood kit has also been proven to work for the isolation of RNA from Plasma and Serum.

MACHEREY-NAGEL NucleoSpin® RNA XS

Purification of highly concentrated RNA from smallest samples

NucleoSpin® RNA XS allows the isolation of highly concentrated and highly pure RNA from small samples. It is based on the reliable silica membrane technology, featuring the innovative NucleoSpin® XS column design which allows elution in only 5 - 20 µL resulting in high RNA concentrations.

- Isolation of RNA from low amounts of sample material like biopsies or single cells
- Elution in only 5 µL resulting in concentrated RNA for sensitive downstream applications
- rDNase included for optional on-column DNA removal
- NucleoSpin® Filters (Shredders) included for efficient homogenization and reduction of viscosity
- High quality RNA that is ready-to-use for RT-PCR and other applications

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| MCN74090210 | NucleoSpin® RNA XS, 10 Preps Includes: NucleoSpin® RNA XS Columns, 10 Collection Tubes (2 mL), 10 NucleoSpin® Filters, RNase-free rDNase, Buffers, Carrier RNA, and Reducing Agent TCEP | Kit | \$87.40 |
| MCN74090250 | NucleoSpin® RNA XS, 50 Preps Includes: NucleoSpin® RNA XS Columns, 50 Collection Tubes (2 mL), 50 NucleoSpin® Filters, RNase-free rDNase, Buffers, Carrier RNA, and Reducing Agent TCEP | Kit | 317.70 |
| MCN740902250 | NucleoSpin® RNA XS, 250 Preps Includes: NucleoSpin® RNA XS Columns, 250 Collection Tubes (2 mL), 250 NucleoSpin® Filters, RNase-free rDNase, Buffers, Carrier RNA, and Reducing Agent TCEP | Kit | 1,318.80 |

MACHEREY-NAGEL HIGH-THROUGHPUT APPLICATIONS

Vacuum and centrifuge processing — manual and automated

Macherey-Nagel offers a variety of kits for medium-throughput and high-throughput nucleic acid purification. Kits for all applications are available for both, manual and automated use on common laboratory robotic platforms.

NucleoSpin® kits based on silica-membrane technology are available in flexible 8-well strip format for varying throughput and in convenient 96-well format for high-throughput nucleic acid purification. NucleoSpin® 8/96 kits can be processed by centrifugation or under vacuum.

For centrifugation, a microplate centrifuge is required that can accommodate NucleoSpin® strips / plate stacked on a Round-well Block, Square-well Block, or Rack with Tube Strips (bucket height: 85 mm) and reaches accelerations of 5 600 - 6 000 x g. For processing NucleoSpin® 8-well strips by centrifugation the Starter Set C is required. A NucleoVac 96 vacuum manifold is required for processing under vacuum. To process 8-well strips under vacuum, the Starter Set A is required.

For the manual processing of NucleoMag kits a suitable magnetic separator is required such as the NucleoMag SEP.

Please contact Mike in Technical Support for assistance.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| MCN740681 | NucleoVac 96 Vacuum Manifold | Each | \$494.60 |
| MCN740682 | Starter Set A Includes: Column Holders A, 2 NucleoSpin® Dummy Strips | Each | 259.00 |
| MCN740684 | Starter Set C Includes: Column Holders C, 2 MN Square-well Blocks Rack with Tube Strips | Each | 363.60 |
| MCN744900 | NucleoMag SEP | Each | 574.40 |

MACHEREY-NAGEL NucleoSpin® FFPE RNA

... the easy way to RNA from FFPE tissue

NucleoSpin® FFPE RNA is designed to ease and improve RNA isolation from FFPE samples. It introduces an innovative method for deparaffinization using the Paraffin Dissolver (included in the kit; patent pending) which allows isolation of concentrated RNA, ready-to-use in RT-PCR, within only 70 minutes!

Features

- Enhanced RT-PCR performance – RNA is well decrosslinked and less fragmented
- Very easy paraffin removal – Paraffin Dissolver (patent pending) included
- Minimum number of working steps in a streamlined workflow
- Efficient on-column DNA removal, rDNase included
- Higher sensitivity with concentrated RNA - elution volume as little as 5 µL

Applications

- Rapid isolation of RNA from formalin-fixed, paraffin-embedded samples e.g., colon carcinoma (unstained); colon carcinoma (hematoxylin stained); colon mucosa, adenocarcinoma of colon transversum, liver (rat / human), liver carcinoma (hematoxylin stained), lymph node, spleen (rat / human); pancreas (rat / human; diabetic / non-diabetic), placenta
- Isolation of RNA from fresh and archived FFPE samples
- Isolation of RNA from specimen on object slides (stained or unstained)
- RNA ready to use in RT-PCR

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| MCN74096910 | NucleoSpin® FFPE RNA – 10 preps Includes: Columns, Paraffin Dissolver, Buffers, Proteinase K, rDNase (RNase-free), Collection Tubes (1.5 mL and 2 mL) User Manual | Kit | \$89.80 |
| MCN74096950 | NucleoSpin® FFPE RNA – 50 preps Includes: (Same as above) | Kit | 339.70 |
| MCN740969250 | NucleoSpin® FFPE RNA – 250 preps Includes: (Same as above) | Kit | 1,428.40 |

MACHEREY-NAGEL NucleoSpin® TriPrep

Parallel isolation of RNA, DNA, and protein from unsplit samples

Features

- Convenient one-column preparation of RNA, DNA, and protein
- Complete kit, including: NucleoSpin Filters (shredders) for optimal lysis, rDNase for on-column DNA digestion, Protein Solving Buffer for solving all types of proteins
- High quality RNA and DNA, ready-to-use for downstream applications
- High protein yield independent of protein size, localization, modification, etc.
- Easy protein quantification using the Protein Quantification Assay

Applications

- Rapid purification of total RNA, DNA, and protein from small and precious samples – no sample splitting for different isolations necessary
- Gene expression profiling, analysis of transgenic organisms, drug screening, genotyping
- Reliable interpretation of RNA, DNA, and protein amounts
- Good preservation of protein primary structure and posttranslational modifications (e.g. protein phosphorylation) allows protein analysis without additional inhibitors (e.g. proteinase or phosphatase inhibitors)
- Suitable for a broad spectrum of starting materials, including cultured cells, tissue, bacteria, yeast, and plants
- RNA and DNA are ready to use for all typical downstream applications
- Proteins are ready-to-use for SDS-PAGE/Western-Blotting

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| MCN74096610 | NucleoSpin® TriPrep – 10 preps Includes: Columns with Collection Tubes, Collection Tubes (1.5 mL and 2 mL), NucleoSpin Filters, Buffers, RNase-free rDNase | Kit | \$50.00 |
| MCN74096650 | NucleoSpin® TriPrep – 50 preps Includes: (Same as above) | Kit | 407.10 |
| MCN740966250 | NucleoSpin® TriPrep – 250 preps Includes: (Same as above) | Kit | 1,740.50 |

MACHEREY-NAGEL NucleoSpin® RNA L

Total RNA from cells and tissue

NucleoSpin® RNA L allows isolation of DNA-free high-quality RNA from large amounts of starting material, e.g. cultured cells, tissue, bacteria, and yeast.

Features

- Complete midi kit with recombinant DNase and shredders for DNA-free* RNA of high quality
- rDNase included for on-column digestion → efficient removal of genomic DNA
- NucleoSpin® Filters L (shredders) included → efficient homogenization and reduction of viscosity
- Up to 600 µg ready-to-use RNA

Applications*

- Total RNA isolation from cultured cells, tissue (standard protocol)
- Support protocol for total RNA from ≤ 10¹⁰ bacterial cells (Gram-negative and Gram-positive)
- Support protocol for total RNA from ≤ 3 x 10⁸ yeast cells
- Support protocol for RNA clean-up from reaction mixtures
- Support protocol for total RNA from samples stored in RNAlater®
- RNA suitable for e.g. real-time RT-PCR, Northern blotting, primer extension, array technology, RNase protection assays

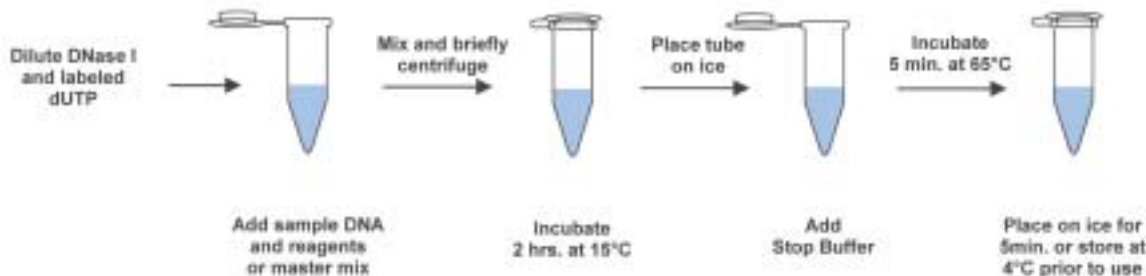
* The amount of DNA contamination is significantly reduced during on-column rDNase digestion. In very sensitive applications it might be possible to detect traces of DNA. The eventuality of DNA detection with PCR increases with:
– The number of DNA copies per preparation: single copy target < plasmid/ mitochondrial target < cells transfected with plasmid
– Decreasing PCR amplicon size

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| MCN74096220 | NucleoSpin® RNA L – 20 preps Includes: NucleoSpin RNA L Columns with Collection Tubes (15 mL), Collection Tubes (15 mL), NucleoSpin® Filters L, Buffers, RNase-free rDNase | Kit | \$222.70 |

ENZO® LIFE SCIENCES NICK TRANSLATION DNA LABELING SYSTEM

A simple and efficient method for generating labeled DNA

The complete system includes all of the necessary reagents required for 50 Nick translation reactions and is recommended for labeling of double stranded DNA larger than 1kb for fluorescent in situ hybridization (FISH) applications. The Nick Translation DNA Labeling System can accommodate a wide range of biotin-labeled and fluorophore-labeled nucleotides. In addition to choice of label, the kit design allows the user to optimize incorporation and product size by adjusting the ratio of labeled-dUTP to dTTP and DNase I concentration respectively.



System Overview

The Enzo® Life Sciences Nick Translation DNA Labeling System contains individualized components, including DNase I, DNA Polymerase I and labeled dUTP. This allows optimization beyond the recommended reaction protocol included with the kit. DNase I introduces randomly distributed nicks to double stranded DNA at low enzyme concentrations. The 5' → 3' exonuclease activity of Polymerase I removes nucleotides from the 3' side of the nick while synthesizing a partial new complementary strand using the 3'-OH termini as primer. In the presence of dye- or biotin-labeled dUTP, Polymerase I incorporates labeled dUTP instead of dTTP. The well-balanced nuclease/polymerase activities of the enzyme mix ensure the generation of highly labeled double stranded DNA fragments.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| ENZ42910 | Nick Translation DNA Labeling System Kit Includes: DNase I, 100 µL 10 x DNase I Dilution Buffer, 1mL DNA Polymerase I, 250 µL Reaction Buffer, 250 µL dNTP Mix, 250 µL dTTP, 180 µL Stop Buffer, 250 mL Nuclease-free Water, 10 mL | Kit | \$369.30 |

ENZO® LIFE SCIENCES FLUORESCENT LABELED dUTPs

Peak performance for labeling of DNA

- Eight distinct colors to choose from, spanning the visible light spectrum
- Exceptionally high quantum yields and molar extinction coefficients
- Excellent water solubility, high signal intensity, good photostability
- Suitable for a wide range of molecular biology and cytogenetics applications

The fluorescent labeled dUTPs are modified at the C-5 position of uridine via an aminoallyl linker, which provides a spacer between the dye and nucleotide that minimizes interactions between them, thus promoting good incorporation into DNA by polymerases. The excellent stability and quantum yields of the fluorescent labeled dUTPs, combined with their high incorporation rates, make them the ideal choice for a broad range of nucleic acid labeling applications. Probes generated with the fluorescent dUTPs are especially suitable for multi-color detection techniques, such as in situ hybridization and microarray analysis.

| Product Number | Description | Abs. Max | Em. Max | Ext. Coeff. (M ⁻¹ cm ⁻¹) | Pkg Size | Price |
|----------------|-----------------------------------|----------|---------|---|----------|----------|
| ENZ42853 | Aqua 431 dUTP DEAC | 431 nm | 480 nm | 50,000 | 25 nmol | \$369.30 |
| ENZ42831 | Green 496 dUTP Fluorescein | 496 nm | 520 nm | 85,000 | 25 nmol | 369.30 |
| ENZ42845 | Green 500 dUTP Rhodamine Green | 500 nm | 522 nm | 78,000 | 25 nmol | 369.30 |
| ENZ42843 | Gold 525 dUTP Carboxyrhodamine 6G | 525 nm | 551 nm | 92,000 | 25 nmol | 369.30 |
| ENZ42521 | Gold 550 dUTP Enhanced Cyanine 3 | 550 nm | 564 nm | 150,000 | 25 nmol | 369.30 |
| ENZ42842 | Orange 552 dUTP TAMRA | 552 nm | 576 nm | 60,000 | 25 nmol | 369.30 |
| ENZ42844 | Red 580 dUTP ROX | 580 nm | 603 nm | 75,000 | 25 nmol | 369.30 |
| ENZ42522 | Red 650 dUTP Enhanced Cyanine 5 | 650 nm | 662 nm | 250,000 | 25 nmol | 369.30 |

ENZO® LIFE SCIENCES CGH LABELING FOR OLIGONUCLEOTIDE ARRAYS

Enhanced Cyanine Dye Performance

Labeling reagents specifically optimized for oligonucleotide CGH arrays.

- Convenient all-in-one system containing labeled nucleotides
- Accommodates a wide range of input DNA (0.25 µg – 2.5 µg) without amplification
- Reduced variability with excellent DLR values (0.09-0.12)

Oligonucleotide arrays for CGH (Comparative Genomic Hybridization) enhance the understanding of genetic disorders, cancers and other genomic aberrations by increasing the resolution of detection for copy number variation. Considering that most labeling technologies for array CGH were originally optimized for use on BAC arrays, results on oligonucleotide arrays may vary. By specifically optimizing the labeling reagents, the CGH Labeling Kit for Oligonucleotide Arrays produces high quality data with as little as 0.25 µg of genomic DNA without the need for amplification. The CGH Labeling Kit for Oligonucleotide Arrays is based upon a proprietary direct labeling technology that utilize two distinct labeled nucleotide formulations. Both EnzoGold550™ and EnzoRed650™ represent enhanced cyanine 3 and 5 dyes with spectral properties that minimize variability and improve signal to noise ratios overall.

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------------------------|--------------|----------|
| ENZ42671 | CGH Labeling Kit for Oligo Arrays | 20 reactions | \$911.00 |

ENZO® LIFE SCIENCES CGH LABELING KIT FOR BAC ARRAYS

Preparation of Cyanine 3- and Cyanine 5-labeled DNA for hybridization to BAC arrays

The CGH Labeling Kit for BAC Arrays has been optimized to label DNA for dual sample comparative genomic hybridization (CGH) assays on BAC arrays. All required reagents are provided including fully optimized nucleotide mixes that contain either cyanine 3-dUTP or cyanine 5-dUTP.

The CGH Labeling Kit for BAC Arrays has been specifically tailored to meet the varying requirements of individual laboratories by providing sufficient amount of reagents for two different protocols.

For the average user, the Standard Protocol calls for a 4-hour labeling in a 50 µL reaction volume. For users with dilute DNA (≤ 20 ng/µL), the Dilute DNA Protocol calls for a 4-16 hour labeling in a total volume of 100 µL.

| Product Number | Description | Pkg Size | Price |
|----------------|--|------------------|----------|
| ENZ42670 | CGH Labeling Kit for BAC Arrays Kit Includes: Primers/Reaction Buffer, 2 x 400 µL Cyanine 3-dUTP Nucleotide Mix, 2 x 50 µL Cyanine 5-dUTP Nucleotide Mix, 2 x 50 µL Klenow Exo-DNA Polymerase, 1 x 20 µL Stop Buffer, 1 x 100 µL Nuclease-free Water, 1 x 1 mL | 2 x 10 reactions | \$911.00 |

ENZO® LIFE SCIENCES BioArray™ cDNA SYNTHESIS KIT

BioArray™ cDNA Synthesis Kit, is based on the scheme of Van Gelder et al. (1990). An oligo dT primer with a bacteriophage T7 promoter sequence at its 5'-end is hybridized to poly A sequences in mRNA. First strand cDNA synthesis proceeds from the action of reverse transcriptase. Second strand synthesis is accomplished by the combined activity of RNase H, to create nicks in the RNA/DNA hybrid, and DNA polymerase that uses these nicks as priming sites for second strand cDNA synthesis.

| Product Number | Description | Pkg Size | Price |
|----------------|---|--------------|----------|
| ENZ4240610 | BioArray™ cDNA Synthesis Module Contains enough reagents for cDNA synthesis from 10 cellular RNA samples | 10 reactions | \$369.30 |

ENZO® LIFE SCIENCES cDNA PURIFICATION KIT

A fast, efficient and convenient method for purification of double stranded cDNA

This column-based procedure removes salts, proteins, nucleotides and small oligos from the upstream enzymatic reactions. The improved formulation of the binding buffer and wash solution allows higher yield of purified cDNA product compared to an earlier version of the kit. The cDNA is purified in three steps that consist of (1) mixing with binding buffer and adding to the column, (2) washing with wash buffer, and (3) elution in a minimum of 6 µL of water. This procedure can be used for purifying a maximum of 5 µg cDNA material ranging in size from 75 bp to 23 kb.

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------------|--------------|----------|
| ENZ42407 | cDNA Purification Kit | 10 reactions | \$106.70 |

RNA AMPLIFICATION AND LABELING

NuGEN RNA AMPLIFICATION AND LABELING

Simple, sensitive, flexible, application-based workflows enable your discoveries and release the potential in your most valuable biological samples.

The Ovation® Systems family of products are designed for specific applications and work together as modules (Amplification and Target Preparation) to create complete workflows for gene expression analysis. This modular approach makes it easy to choose the right Ovation® products for your application or preferred analytical platform, whether it's Affymetrix, Agilent, or Illumina microarray technology, or qPCR.



NuGEN Product Selection Chart:

| NuGEN Amplification Module | Application | Analysis Platform | NuGEN Target Preparation Module |
|--|---|--|---|
| Ovation® RNA Amplification System V2* | <ul style="list-style-type: none"> For small samples 5 – 100 ng of total RNA 3' focused amplification | Affymetrix GeneChip 3' Arrays Agilent Arrays Illumina Arrays Quantitative PCR | Encore™ Biotin Module Agilent Solution Encore BiotinIL Module None |
| Ovation® Whole Blood Solution Requires Ovation® RNA Amplification System V2 & Ovation® WB Reagent | <ul style="list-style-type: none"> For whole blood samples 20-50 ng of whole blood total RNA 3' focused amplification | Affymetrix GeneChip 3' Arrays | Encore™ Biotin Module |
| WT-Ovation™ RNA Amplification System | <ul style="list-style-type: none"> For small and degraded samples 5 – 50 ng of total RNA No 3' bias – Whole transcriptome amplification | Quantitative PCR | None |
| Ovation® Pico WTA System Ovation® PicoSL WTA System | <ul style="list-style-type: none"> For small and degraded samples 500 pg to 50 ng of total RNA No 3' bias – Whole transcriptome amplification | Affymetrix GeneChip 3' Arrays Affymetrix Gene & Exon ST Arrays Agilent Arrays Illumina Arrays Quantitative PCR | Encore™ Biotin Module WT-Ovation™ Exon Module & Encore™ Biotin Module Agilent Solution Encore™ BiotinIL Module None |
| WT-Ovation™ FFPE System V2 | <ul style="list-style-type: none"> For FFPE samples or 50 ng of FFPE total RNA No 3' bias – Whole transcriptome amplification | Affymetrix GeneChip 3' Arrays Affymetrix Gene & Exon ST Arrays Agilent Arrays Illumina Arrays Quantitative PCR | Encore™ Biotin Module WT-Ovation™ Exon Module & Encore™ Biotin Module Agilent Solution Encore™ BiotinIL Module None |
| Applause™ WT-Amp ST System Applause™ WT-Amp Plus ST System | <ul style="list-style-type: none"> For standard samples Total RNA samples sizes starting at 50 ng No 3' bias – Whole transcriptome amplification | Affymetrix Gene & Exon ST Arrays | WT-Ovation™ Exon Module & Encore™ Biotin Module |
| Applause™ 3'-Amp System | <ul style="list-style-type: none"> For standard samples Total RNA sample sizes starting at 50 ng 3' focused amplification | Affymetrix GeneChip 3' Arrays | Encore™ Biotin Module |
| WT-Ovation™ One-Direct | <ul style="list-style-type: none"> Prepares targets from lysate of one or more cells As little as 10 pg of purified total RNA | Affymetrix GeneChip 3' Arrays Affymetrix Gene & Exon ST Arrays Agilent Arrays Illumina Arrays Quantitative PCR | Encore™ Biotin Module Agilent Solution Encore™ BiotinIL Module |

MOLECULAR BIOLOGY

NuGEN Ovation® WHOLE BLOOD SOLUTION

Amplify nanograms of whole blood RNA without the need for Globin reduction procedures

The Ovation® Whole Blood Solution is comprised of optimized products and user guides enabling gene expression analysis of whole blood RNA without the need for Globin reduction procedures. The Ovation® Whole Blood Solution is composed of the Ovation® RNA Amplification System V2 (NU310012 & NU310060) and the Ovation® WB Reagent.

These components provide a fast, simple, automation-friendly process that starts with 20-50 ng of whole blood total RNA and yields up to 12 micrograms of ss-cDNA ready for qPCR analysis or cDNA storage. The cDNA can be used in fragmentation and labeling for target preparation and analysis with Affymetrix GeneChip® or Agilent arrays.

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------|----------|----------|
| NU130012 | Ovation® WB Reagent | 12 rxns | \$242.10 |
| NU130060 | Ovation® WB Reagent | 60 rxns | 790.20 |

NuGEN WT-Ovation™ FFPE SYSTEM V2

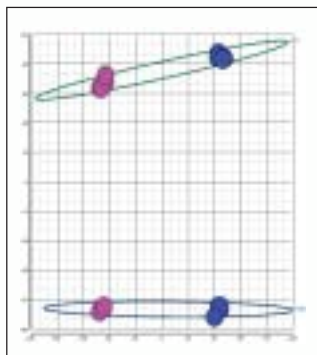
Target preparation from as little as 50 ng of FFPE total RNA

The NuGEN WT-Ovation™ FFPE System V2 is a whole transcriptome amplification system enabling researchers to conduct global gene expression analysis on the vast archives of small and degraded RNA derived from FFPE samples. The system is comprised of reagents and a protocol required for amplification of as little as 50 ng of total FFPE RNA. The protocol takes just six hours, and can be used for qPCR, sample archiving, fragmentation, and labeling.

The amplified cDNA can be fragmented and labeled in less than two hours for GeneChip® 3' expression array analysis using NuGEN's Encore™ Biotin Module.

For analysis using Affymetrix GeneChip® Exon and Gene ST arrays, the amplified cDNA can be used with the WT-Ovation™ Exon Module, then fragmented and labeled using the Encore™ Biotin Module.

For analysis on Agilent arrays, the amplified cDNA can be fragmented and labeled using NuGEN's Agilent Solution.



Principle Components Analysis (PCA) of colon tumor and normal adjacent tissue (NAT)

Targets were prepared from RNA extracted from formalin fixed paraffin embedded tissue (FFPE) from one donor (pink) and fresh frozen tissue from a second donor (blue). Each sample was amplified in quadruplicate and hybridized to Affymetrix HGU133A_2.0 GeneChip® arrays. PCA was performed using Partek Genomics Suite software. The green and blue ellipses (NAT and Tumor, respectively) define the boundary of two standard deviations from the centroid of each cluster indicating a statistically significant separation of samples based on the disease state of the tissue. This demonstrates that the amplification system maintains the integrity of the biological data.

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------------|----------|------------|
| NU340012 | WT-Ovation™ FFPE System V2 | 12 rxns | \$1,746.90 |
| NU340060 | WT-Ovation™ FFPE System V2 | 60 rxns | 8,235.90 |

WT-Ovation™ FFPE RNA Amplification System V2 includes all necessary buffers, primers and enzymes for first strand, second strand synthesis and amplification, yielding single stranded amplified cDNA. This kit also provides nuclease-free water and Agencourt® RNAClean® magnetic beads for double stranded cDNA purification.

NuGEN WT-Ovation™ RNA AMPLIFICATION SYSTEM

Amplify all mRNA species in a total RNA population across the entire transcriptome prior to Q-PCR

The WT-Ovation™ RNA Amplification System powered by Ribo-SPIA® technology, enables whole transcriptome gene expression analysis. WT-Ovation™ provides a rapid, simple and sensitive method for preparing microgram quantities of amplified cDNA from 5 to 50 ng of total RNA with no 3' bias, in less than 4 hours. Amplification is initiated at the 3' end and randomly throughout the whole transcriptome.

The amplified cDNA can be fragmented and labeled in under two hours for Affymetrix GeneChip® 3' expression array analysis using NuGEN's Encore™ Biotin Module.

For analysis on Agilent arrays, the amplified cDNA can be fragmented and labeled in the same day using NuGEN's Agilent Solution.

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|------------|
| NU221024 | WT-Ovation™ RNA Amplification System | 24 rxns | \$1,935.00 |

The WT-Ovation™ RNA Amplification System includes buffers, primers, enzymes and nuclease-free water.

NuGEN Ovation® PICO WTA SYSTEM

Linear whole transcriptome amplification starting with 500 picograms of total RNA

The Ovation® Pico WTA System provides a sensitive, rapid, and simple method for preparing in less than five hours six to 10 micrograms of amplified cDNA from a range of 500 picograms to 50 nanograms total RNA. Amplification is initiated both at the 3' end and randomly throughout the whole transcriptome to enable amplification of non-poly(A) transcripts and compromised RNA samples and to provide flexibility in qPCR assay design.

With the same input of total RNA and a similar procedure, the Ovation® Pico and PicoSL WTA Systems are tailored to produce distinct levels of output meeting varying downstream analysis requirements. The Ovation® Pico WTA system generates 6-10 µg of amplified cDNA whereas the Ovation® PicoSL WTA System is optimized for lower output at 2-4 µg.

The amplified cDNA can be fragmented and labeled in less than two hours for GeneChip® 3' expression array analysis using NuGEN's Encore™ Biotin Module.

For analysis using Affymetrix GeneChip® Exon and Gene ST arrays, the amplified cDNA can be used with the WT-Ovation™ Exon Module, then fragmented and labeled using the Encore™ Biotin Module.

For analysis on Agilent arrays, the amplified cDNA can be fragmented and labeled using NuGEN's Agilent Solution.

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------------|----------|------------|
| NU330012 | Ovation® Pico WTA System | 12 rxns | \$1,411.20 |
| NU330060 | Ovation® Pico WTA System | 60 rxns | 6,588.90 |
| NU331048 | Ovation® PicoSL WTA System | 48 rxns | 2,108.70 |

The Ovation® Pico WTA System includes all necessary buffers, primers and enzymes for first strand synthesis, second strand synthesis and amplification, yielding single stranded amplified cDNA. The kit also provides nuclease-free water and Agencourt® RNAClean® magnetic beads for double stranded cDNA purification.

RNA AMPLIFICATION AND LABELING

NuGEN WT-Ovation™ SYSTEMS APPLICATIONS

The family of Whole Transcriptome WT-Ovation™ RNA Amplification systems is ideal for small, degraded, LCM, whole blood, old and archived tissue, non-poly (A) RNA, and any clinical material that has been collected under suboptimal field conditions. Since the RNA is amplified with no 3' bias, the power and utility of Whole Transcriptome amplification is also clear to scientists exploring alternative splice variants, exon array analysis, and prokaryotic gene expression.

NuGEN Ovation® and WT-Ovation™ Kits are compatible with the Macherey-Nagel NucleoSpin® Extract Kit for amplified cDNA purification.

Please contact our Technical Support Department for more information.

NuGEN Ovation® RNA AMPLIFICATION SYSTEM V2

Prepare amplified cDNA from nanograms of total RNA

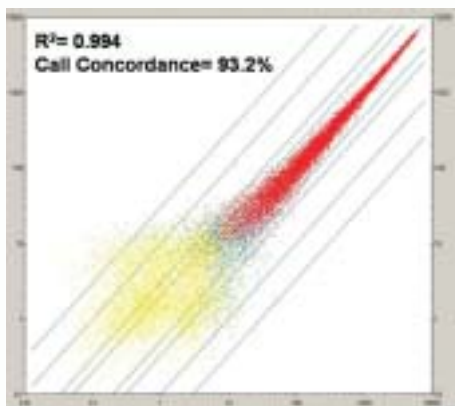
The Ovation® RNA Amplification System V2 provides a rapid, simple, and automation-friendly approach for 3'-focused amplification of total RNA in less than four hours, and yields between four and seven µg of amplified antisense ss-cDNA for qPCR or microarray analysis.

The amplified cDNA can be fragmented and labeled in less than two hours for Affymetrix GeneChip® 3' expression array analysis using NuGEN's Encore™ Biotin Module.

For analysis on Agilent arrays, the amplified cDNA can be fragmented and labeled in the same day using NuGEN's Agilent Solution.

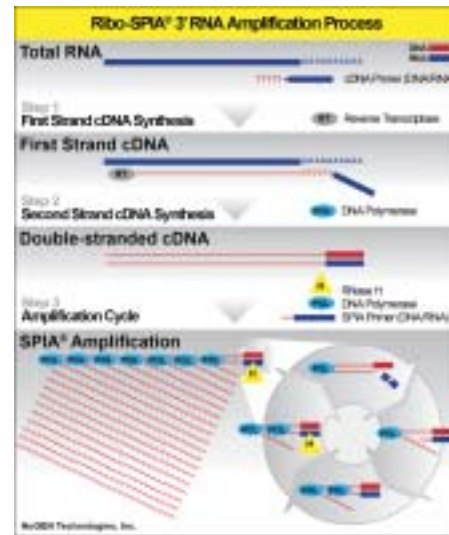
| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|------------|
| NU310012 | Ovation® RNA Amplification System V2 | 12 rxns | \$1,277.10 |
| NU310060 | Ovation® RNA Amplification System V2 | 60 rxns | 5,930.10 |

The Ovation® RNA Amplification System V2 includes all of the buffers, primers, enzymes and nuclease free water.



High level of reproducibility with as little as 5 ng of total RNA

Two independent amplifications of 5 ng HeLa RNA using the Ovation® RNA Amplification System V2, processed with the FL-Ovation™ cDNA Biotin Module V2, and analyzed on Affymetrix HG-U133A 2.0 GeneChip® array, show a high R2 signal correlation of 0.994 with a call concordance of 93.2%.



NuGEN AUTOMATION SOLUTIONS

Automated target preparation from total RNA for GeneChip® array analysis

The NuGEN Automation Solutions significantly accelerate and facilitate high throughput RNA amplification, fragmentation, and labeling for microarray analysis and qPCR using the Ovation® family of modular products.

Ideal for target preparation from a wide range of sample types such as whole blood, LCM, sorted cells, fine needle biopsies, and other limited and compromised samples.

The NuGEN Automation Solutions include validated scripts for various combinations of NuGEN assays and automation platforms. Currently the Ovation® Whole Blood RNA amplification, Fragmentation and Biotin Labeling protocols have been successfully automated on the following platforms:

- Beckman Biomek® ArrayPLEX
- Beckman Biomek® FX
- Affymetrix GeneChip® Array Station (GCAS)

Reagent Component: Products with reagent fill sizes sufficient for processing 96 or two sets of 48 samples. The automation reagent part numbers are designated with the letter 'A'.

Tools Component: Scripts or methods for the specific automation workstation, as well as instructions and documentation to help install and utilize these scripts.

Service Component: Automation consulting services in half or full day increments.

| Product Number | Description | Pkg Size | Price |
|----------------|---|------------|------------|
| NU3100A01 | Ovation® RNA Amplification System V2 - Automation | 96 samples | \$9,224.10 |
| NU1300A01 | Ovation® WB Reagent – Automation | 96 samples | 1,053.90 |
| NU4200A01 | Encore™ Biotin Module - Automation | 96 samples | 6,588.90 |

NuGEN ENCORE™ BIOTIN MODULE

Fragmentation and biotin labeling of cDNA

The Encore™ Biotin Module is designed for fragmentation and labeling of cDNA for analysis on Affymetrix GeneChip® arrays. This product provides a rapid, simple and easily automatable approach to fragmentation and labeling of up to 5 µg of cDNA in less than 2 hours, without the need for any purification steps.

The input cDNA can be generated from a wide range of sample quality or quantity using the following NuGEN RNA amplification systems: WT-Ovation™ FFPE System, the Ovation® Pico WT System, or the Ovation® RNA Amplification System V2.

| Product Number | Description | Pkg Size | Price |
|----------------|-----------------------|----------|----------|
| NU420012 | Encore™ Biotin Module | 12 rxns | \$940.50 |
| NU420060 | Encore™ Biotin Module | 60 rxns | 4,282.20 |

The Encore™ Biotin Module kit includes all the necessary buffers, enzymes and reagents.

NuGEN's Automation Solutions enable analysis of small and difficult samples to meet today's challenges in high throughput expression profiling and biomarker discovery.

NuGEN AGILENT SOLUTION

Fluorescent Labeling of cDNA for Agilent gene expression microarray analysis

The NuGEN Agilent solution enables the use of WT-Ovation™-generated cDNA for one-colour or two-colour analysis on the Agilent's Dual-Mode Gene Expression Arrays. The NuGEN WT-Ovation™ technology for RNA amplification is ideal for use with small and compromised RNA samples typically obtained from clinical specimens such as LCM, sorted cells, fine needle biopsies, and FFPE samples.

The workflow consists of the following steps:

Define Sample Type: Based on sample characteristics, choose one of NuGEN's validated whole-transcript amplification product such as WT-Ovation™ FFPE System or the Ovation® Pico WTA System.

Amplify RNA: Amplify RNA according to NuGEN protocols to generate amplified cDNA.

Label cDNA: Using the protocol outlined in the NuGEN Agilent Solution Application Note, label the amplified cDNA and proceed with hybridization to the Agilent Dual-Mode gene expression arrays.

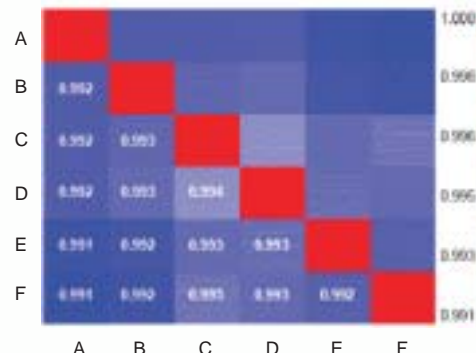
The NuGEN Agilent Solution reproducibility amplifies and labels very small (down to 500 picograms) or degraded samples.

NuGEN WT-Ovation™ EXON MODULE

Prepare targets for analysis on Affymetrix GeneChip® Exon and Gene ST Arrays

The WT-Ovation™ Exon Module enables global gene expression analysis of small and degraded RNA samples such as FFPE, LCM, fine needle aspirates, sorted cells and blood on Affymetrix GeneChip® Exon and Gene ST arrays.

Using cDNA generated by NuGEN's WT-Ovation™ FFPE System, or Ovation® Pico WTA System, in about two hours the Exon Module creates sense-strand cDNA targets ready for fragmentation and labeling with NuGEN's Encore™ Biotin Module.



Array Reproducibility

GeneChip® Gene 1.0 ST arrays were hybridized with fragmented and biotin-labeled ST-cDNA generated by six users in six different laboratories. A very high degree of array signal Pearson correlation ($r > 0.991$) was observed for all pairwise comparisons demonstrating a high degree of reproducibility and robustness of the NuGEN Exon solution. Gene ST array signal values were normalized using RMA and Pearson correlation was plotted using the Expression Console analysis package.

| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------|----------|----------|
| NU200012 | WT-Ovation™ Exon Module | 12 rxns | \$806.40 |
| NU200060 | WT-Ovation™ Exon Module | 60 rxns | 2,304.90 |

The WT-Ovation™ Exon Module kit includes all the necessary, buffers, enzymes and reagents.

NuGEN ENCORE™ BIOTIN IL MODULE

The NuGEN Encore™ BiotinIL Module enables the use of Ovation-generated cDNA for analysis on the Illumina's Genome-Wide Expression BeadChips. The NuGEN Ovation® and WT-Ovation™ technologies for RNA amplification are ideal for use with small and compromised RNA samples typically obtained from clinical specimens such as whole blood, LCM, sorted cells, fine needle biopsies, and FFPE samples.

The workflow consists of the following steps:

Define Sample Type: Based on sample characteristics, choose one of NuGEN's validated amplification products such as WT-Ovation™ FFPE System, Ovation® Pico WTA System, or the Ovation® RNA Amplification System V2.

Amplify RNA: Obtain the appropriate amplification system and amplify RNA according to NuGEN protocols to yield amplified cDNA.

Label cDNA: The amplified material can then be directly used as input to the Encore™ BiotinIL Module and the labeled target can be hybridized to the Illumina Expression BeadChips.

| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------|----------|----------|
| NU421048 | Encore™ BiotinIL Module | 48 rxns | \$806.40 |

RNA AMPLIFICATION AND LABELING

MOLECULAR BIOLOGY

NuGEN APPLAUSE™ WT-AMP ST SYSTEM

The Applause™ WT-Amp ST and WT-Amp Plus ST Systems feature a simple, fast, single-tube, add-and-incubate workflow. Requiring no ribosomal RNA reduction and only a single purification step, targets are ready for hybridization in approximately 9 hours from RNA to array.

The Applause™ Systems offer NuGEN's proven SPIA technology for total RNA sample sizes starting at 50 ng. Powerful and cost effective, Applause™ delivers a single-tube, single purification, add-and-incubate assay as a more practical solution to meet everyday microarray and qPCR amplification needs.

The WT-Amp ST and WT-Amp Plus ST Systems are designed for preparing targets for interrogation on the Affymetrix GeneChip® Gene ST and Exon ST arrays, respectively. This low cost assay requires no ribosomal RNA reduction step and can be completed in a single day. Used together with the Encore™ Biotin Module, the Applause™ system provides the perfect workflow to produce targets appropriate for Gene ST and Exon ST array analysis.

| Product Number | Description | Pkg Size | Price |
|----------------|---------------------------------|----------|------------|
| NU550024 | Applause™ WT-Amp ST System | 24 rxns | \$1,262.70 |
| NU551024 | Applause™ WT-Amp Plus ST System | 24 rxns | 1,476.90 |

The Applause™ WT-Amp ST System includes all the necessary buffers, enzymes and reagents.

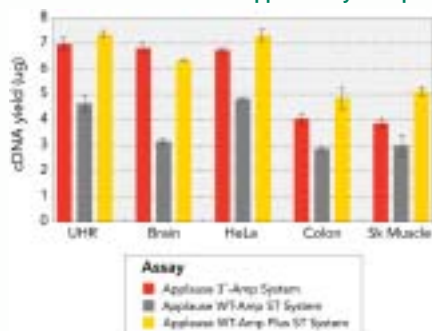
NuGEN APPLAUSE™ 3'-AMP SYSTEM

The Applause™ 3'-Amp System (Part No.: NU510024) features a simple, fast and sensitive method for preparing microgram quantities of amplified, antisense, single-stranded cDNA product. Requiring only a single purification step, targets are ready for hybridization in a single day.

The Applause™ Systems offer NuGEN's proven Ribo-SPIA® (Single Primer Isothermal Amplification) technology for a large range of RNA sample sizes ranging from 50 to 200 ng.

The Applause™ 3'-Amp System offers a comprehensive solution to prepare targets for use with Affymetrix GeneChip® arrays. These low-cost, single-tube, add-and-incubate assays can be completed in a single day. Fragmentation and labeling of the cDNA target to prepare for array hybridization is performed using the Encore™ Biotin Module with each of the Applause™ System products.

Amplified cDNA Yields with the Applause System products



| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------|----------|------------|
| NU510024 | Applause™ 3'-Amp System | 24 rxns | \$1,047.60 |

The Applause™ 3'-Amp System includes all the necessary buffers, enzymes and reagents.

NuGEN PRELUDE™ DIRECT LYSIS MODULE

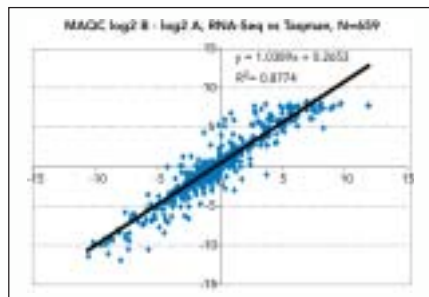
The Prelude™ Direct Lysis Module provides a fast and easy method for whole transcriptome analysis using direct cell lysates without RNA isolation. Cell washing and lysis take less than five minutes, and the resulting lysates can be added directly to the first strand synthesis reaction of the Ovation® Pico WTA, PicoSL WTA, or RNA-Seq Systems. Amplified yields are equivalent to those obtained with purified RNA samples. High-quality results are obtained as measured by arrays, qPCR, and RNA-Seq, with high concordance between cell lysates and the corresponding purified RNA.

| Product Number | Description | Pkg Size | Price |
|----------------|------------------------------|----------|----------|
| NU140024 | Prelude™ Direct Lysis Module | 24 rxns | \$403.20 |

NuGEN OVATION® RNA-SEQ SYSTEM

The Ovation® RNA-Seq System provides a fast and simple method for preparing amplified cDNA from total RNA for RNA-Seq applications (transcriptome sequencing). Amplification is initiated at the 3' end as well as randomly throughout the whole transcriptome in the sample. This feature makes the Ovation® RNA-Seq System ideal for amplification prior to Next Generation Sequencing, as it allows amplification of both mRNA and non-polyadenylated transcripts. The double-stranded cDNA product of the Ovation® RNA-Seq System is optimized for the generation of sequencing libraries for Next Generation Sequencing platforms.

The Ovation® RNA-Seq System is powered by Ribo-SPIA® technology, a rapid, simple and sensitive RNA amplification process developed by NuGEN. Using Ribo-SPIA® technology and starting with as little as 500 pg total RNA, microgram quantities of cDNA can be prepared in approximately 6 hours.



Comparison of Ovation® RNA-Seq and qPCR: Differential expression data was generated for the MAQC A (Human Universal Reference) and MAQC B (Human Brain Reference) by both RNA-Seq and qPCR. RNA-Seq data from 10 ng of total RNA is plotted on X-axis, qPCR data plotted Y-axis. 659 TaqMan® probes that uniquely map to the refSeq annotations used in the RPKM calculations are represented. The qPCR results were originally reported in Shi, L. et al. Nature Biotechnology (2006) 24(9): 1151-1161.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|------------|
| NU710008 | Ovation® RNA-Seq System The Ovation® RNA-Seq System includes all the necessary buffers, enzymes and reagents. | 8 rxns | \$2,196.00 |

NuGEN OVATION® 3'-DGE SYSTEM

The Ovation® 3'-DGE System provides accurate expression analysis (tag profiling) suitable for quantification of any poly(A)+ transcripts, without the need for prior sequence knowledge. It employs a simple, fast, and automatable workflow, powered by the Ribo-SPIA® Single Primer Isothermal Amplification technology and is compatible with all leading NGS (Next Generation Sequencing) platforms.

The input for the Ovation® 3'-DGE System is flexible. You can choose one of the two options that best fits with your experimental design:

- 10 ng – 100 ng of purified total RNA
- Direct cell lysate of 50 – 10,000 cells using the Prelude™ Direct Lysis Module

The protocol for the Ovation® 3'-DGE System takes only six hours to complete and generates micrograms of double-stranded cDNA, focusing on the most 3' 150 – 500 bases proximal to the poly(A) tail of the transcripts, ready for NGS library construction.

For users choosing the Illumina NGS platforms, the integrated solution with the Encore™ NGS Library System I or the Encore NGS Multiplex System I, DGE libraries can be produced in nine hours, greatly simplifying the entire sample preparation procedure. The combination of the Ovation® 3'-DGE System and the Encore™ NGS Library System I provides a complete, streamlined and easily automatable sample preparation workflow, enabling NGS-based expression profiling approaching the protocol simplicity and sample throughput of microarrays.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|------------|
| NU720008 | Ovation® 3'-DGE System Ovation® 3'-DGE System includes all the necessary buffers, primers, and enzymes for first strand, second strand synthesis and amplification, yielding double stranded amplified cDNA. The kit also provides nuclease-free water and Agencourt RNAClean magnetic beads for second strand cDNA purification. | 8 rxns | \$1,567.80 |

NuGEN OVATION® WGA SYSTEM

Ovation® WGA System offers a robust and simple linear amplification technology based on SPIA® (Single Primer Isothermal Amplification). This amplification system faithfully replicates genomic DNA from clinical samples, providing a valuable resource for a variety of downstream applications including copy number change analysis using real-time quantitative PCR (qPCR) or microarrays. Because of the simplicity and robustness of the procedure, accurate and quantitative results are obtained with minimal sample or allele dropouts and without the need for customization or optimization.

Starting with 10 ng of genomic DNA, microgram quantities of amplified SPIA® Product can be prepared in approximately four hours. A variety of samples can be used successfully with the Ovation® WGA System, such as genomic DNA purified from cell lines, blood or tissue. The size of the resulting SPIA® products ranges from 50 to 1,500 bases, suitable for a wide range of downstream analysis.

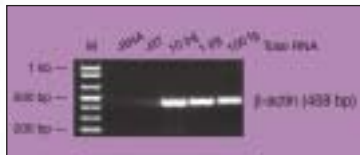
| Product Number | Description | Pkg Size | Price |
|----------------|---------------------|----------|----------|
| NU610012 | Ovation® WGA System | 12 rxns | \$335.70 |

RT-PCR ANALYSIS

MOLECULAR BIOLOGY

USB FidelityTaq™ RT-PCR MASTER MIX

USB FidelityTaq™ RT-PCR Master Mix (2X) further simplifies reverse transcription-polymerase chain reaction (RT-PCR) technique by providing all the necessary reagents for high-fidelity, one-step RT-PCR in a pre-mixed format. One-step RT-PCR is a variation of RT-PCR in which the components necessary for both the RT and PCR steps are combined in a single tube and the reactions are performed sequentially. During, reverse transcriptase with the FidelityTaq™ Master Mix, an RNA template is converted to cDNA which is subsequently amplified by a thermostable DNA polymerase. This single-step, closed-tube approach simplifies the expression analyses of one or a few genes from multiple RNA samples and reduces the risk of contaminating samples.



Sensitivity of the FidelityTaq™ RT-PCR Master Mix. A 459 bp fragment of the human β -actin gene was RT-PCR amplified from the indicated amounts of human placental total RNA. RT temperature was 50°C and primers were at 0.8 μ M. The -RNA control included no RNA in the sample and the -RT control included 100 ng of total RNA but used the Taq PCR Master Mix (PN 71162, without reverse transcriptase) to test for any contaminating genomic DNA in the RNA sample. "M" is the DNA marker lane. Since the typical human cell contains about 10 picograms of total RNA, this target's detection at 100 femtograms represents about 1/100th of the total RNA of a typical human cell.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| UB71185S1 | FidelityTaq™ RT-PCR Master Mix (2X) Includes: FidelityTaq™ RT-PCR Master Mix (2X), 4 x 625 μ L RNase-Free Water, 3 x 1 mL 25mM MgCl ₂ Solution, 1 x 1 mL | 100 rxns | \$489.20 |

USB RT-PCR MASTER MIX

RT-PCR Master Mix (2X) provides maximum convenience and optimal performance for highly sensitive and specific one-step RT-PCR reactions. This unique formulation combines all the reagents necessary for successful RT-PCR: M-MLV Reverse Transcriptase, Taq DNA Polymerase, recombinant RNase Inhibitor, Ultrapure nucleotides, and magnesium in a specialized buffer. Simply add the RT-PCR Master Mix to RNA template, primers, and RNase-free water and the reactions are ready to begin.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| UB78370S1 | RT-PCR Master Mix (2X) Includes: RT-PCR Master Mix (2X), 4 x 625 μ L RNase-Free Water, 3 x 1 mL 25mM MgCl ₂ Solution, 1 x 1 mL | 100 rxns | \$452.70 |

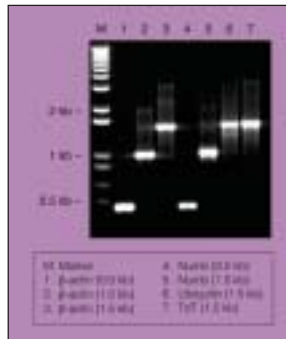
USB RT SCRIPT KIT

The RT Script Kit is designed for reverse transcription of RNA template to yield cDNA for PCR. The kit accomplishes the RT step in RT-PCR. USB Taq PCR Master Mix, the Taq PCR Kit or other USB PCR reagents can be used for the PCR step.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| UB78360 | RT Script Kit Includes: M-MLV Reverse Transcriptase RT Reaction Buffer (5X) (includes MgCl ₂) Nucleotide Mix, Ultrapure: 10mM each dATP, dCTP, dGTP, dTTP Ribonuclease Inhibitor, Recombinant (4 units/ μ L) Magnesium Chloride (25mM) RNase-Free (DEPC treated) Water | 50 rxns | \$197.60 |

USB ONE-STEP RT-PCR KIT

The USB One-Step RT-PCR Kit comes complete and ready to use for RT-PCR. The kit can be used with diverse RNA samples and custom primers prepared by standard approaches. The kit is based on M-MLV Reverse Transcriptase and Taq DNA Polymerase, premixed together at concentrations optimized to balance sensitivity and specificity. An optimized reaction buffer, RNase inhibitor, Ultrapure dNTPs, supplemental magnesium chloride, and RNase-free water are also included, allowing quick, reliable set up of reactions.



Amplification of diverse RNA targets by one-step RT-PCR.

Target (source): β -actin (100 ng total RNA, human liver), Numb (100 ng total RNA, human liver), Ubiquitin (1 μ g total RNA, Arabidopsis leaf), and Terminal Deoxynucleotidyl Transferase (TdT) (100 ng polyA RNA, calf thymus). Gene specific primers were designed to generate products of particular sizes.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| UB78350 | One-Step RT-PCR Kit Includes: RT-PCR Enzyme Mix RT-PCR Reaction Buffer, 5X (includes MgCl ₂) Ultrapure PCR Nucleotide Mix: 10mM each dATP, dCTP, dGTP, dTTP Ribonuclease Inhibitor, Recombinant (4 units/ μ L) Magnesium Chloride, 25mM RNase-Free (DEPC treated) Water | 50 rxns | \$253.40 |

USB TWO-STEP RT-PCR KIT

The USB Two-Step RT-PCR Kit is a versatile kit well suited for diverse RT-PCR applications. Two-step RT-PCR, involves carrying out the RT (or cDNA synthesis) step in one tube and the PCR step in another tube with gene specific primers, for detection of a single target from a single RNA sample. The two-step/gene specific primer format is excellent for qualitative analysis of gene expression, highly detailed analysis of RNA splice variants, and optimization of PCR independent of RT. The Two-Step RT-PCR Kit is one kit with many applications.

| Product Number | Description | Pkg Size | Price |
|----------------|--|------------------------------|----------|
| UB78355 | Two-Step RT-PCR Kit Includes: M-MLV Reverse Transcriptase Taq DNA Polymerase RT Reaction Buffer (5X) (includes MgCl ₂) PCR Reaction Buffer (10X) (includes MgCl ₂) PCR Nucleotide Mix, Ultrapure: 10mM each dATP, dCTP, dGTP, dTTP Ribonuclease Inhibitor, Recombinant (4 units/ μ L) Magnesium Chloride (25mM) RNase-Free (DEPC-treated) Water | 50 RT rxns & 100 PCR rxns | \$283.40 |



USB FidelityTaq™ DNA POLYMERASE

USB FidelityTaq™ DNA Polymerase combines high quality USB recombinant Taq DNA Polymerase with a high-fidelity, proofreading polymerase. This enzyme blend has the 5'→3' exonuclease activity of Taq DNA polymerase as well as the 3'→5' exonuclease activity of the proofreading polymerase. FidelityTaq™ DNA Polymerase increases amplification fidelity approximately 3-6 times over Taq DNA Polymerase alone and allows for amplification of longer product sizes.

| Product Number | Description | Pkg Size | Price |
|----------------|---|---------------|----------|
| UB71180S1 | FidelityTaq™ DNA Polymerase, 5 units/μL | 50 units | \$51.70 |
| UB71180S2 | FidelityTaq™ DNA Polymerase, 5 units/μL | 250 units | 198.70 |
| UB71180S3 | FidelityTaq™ DNA Polymerase, 5 units/μL | 1000 units | 716.80 |
| UB71180S4 | FidelityTaq™ DNA Polymerase, 5 units/μL | 5 x 250 units | 872.70 |
| UB71180S5 | FidelityTaq™ DNA Polymerase, 5 units/μL | 5000 units | 2,893.10 |

USB FidelityTaq™ PCR MASTER MIX PLUS

FidelityTaq™ PCR Master Mix Plus includes FidelityTaq™ PCR Master Mix with PCR-Qualified H₂O and MgCl₂ solution for added convenience.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| UB71183 | FidelityTaq™ PCR Master Mix Plus Includes: FidelityTaq PCR Master Mix (2X), 4 x 625 μL PCR-Qualified Water, 3 x 1 mL 25mM MgCl ₂ , 1 x 1 mL | 100 rxns | \$190.00 |

USB HotStart-IT™ Taq DNA POLYMERASE

HotStart-IT™ Taq DNA Polymerase has been designed for PCR applications that demand extremely high specificity and sensitivity. It uses a novel hot start method called primer-sequestration. It combines high-quality Taq DNA Polymerase with a recombinant protein which binds and sequesters primers at lower temperatures making them unavailable for use by Taq DNA Polymerase. The primer-sequestration technique effectively blocks DNA synthesis from mis-priming events at lower temperature.

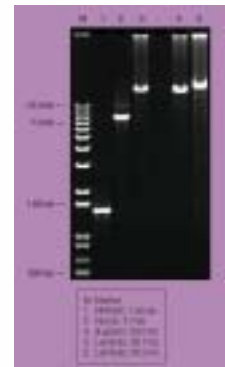


Increased specificity of HotStart-IT™ Taq DNA Polymerase. The single-copy numb gene was amplified from the indicated amounts of human genomic DNA with standard Taq DNA Polymerase (-) or with HotStart-IT™ Taq DNA Polymerase (+). Primers were designed with a 3 bp overlap at their 3'-ends to favor primer-dimer formation during reaction set-up at room temperature. Results demonstrate a shift from mainly primer-dimers to the desired product when HotStart-IT™ Taq DNA Polymerase is used.

| Product Number | Description | Pkg Size | Price |
|----------------|--|---------------|----------|
| UB71195S1 | HotStart-IT™ Taq DNA Polymerase, 1.25 units/μL | 50 units | \$53.80 |
| UB71195S2 | HotStart-IT™ Taq DNA Polymerase, 1.25 units/μL | 250 units | 205.40 |
| UB71195S3 | HotStart-IT™ Taq DNA Polymerase, 1.25 units/μL | 1000 units | 624.60 |
| UB71195S4 | HotStart-IT™ Taq DNA Polymerase, 1.25 units/μL | 5 x 250 units | 813.20 |
| UB71195S5 | HotStart-IT™ Taq DNA Polymerase, 1.25 units/μL | 5000 units | 2,868.00 |

USB FidelityTaq™ PCR MASTER MIX (2X)

FidelityTaq™ PCR Master Mix (2X) combines high-quality USB FidelityTaq™ Taq DNA Polymerase, a high-fidelity, proofreading polymerase and USB Ultrapure nucleotides in a specialized buffer formulation. This ready-to-use mix increases amplification fidelity approximately 3-6 times over Taq DNA Polymerase alone and allows for amplification of longer product sizes. The mix generates products whose ends are compatible with either blunt-end or TA cloning procedures. FidelityTaq™ PCR Master Mix provides robust and reliable performance for PCR applications in which high-fidelity or longer product sizes are required. Since the mix is pre-formulated, experimental variability is significantly reduced.



Range of targets amplified with FidelityTaq™ PCR Master Mix. Single copy NRAGE (1) and Numb (2) were amplified from 1 ng human genomic DNA. Single-copy β-globin (3) was amplified from 100 ng human genomic DNA. Both the 20.7 kb (4) and 35.0 kb (5) lambda targets were amplified from 1 ng lambda DNA. No magnesium optimization was required, as 1.5mM final magnesium concentration was used in all reactions.

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------------------|----------|----------|
| UB71182S1 | FidelityTaq™ PCR Master Mix (2X) | 100 rxns | \$164.90 |

USB HotStart-IT™ Taq MASTER MIX (2X)

HotStart-IT™ Taq Master Mix (2X) combines USB recombinant Taq DNA Polymerase, a recombinant hot start protein and USB Ultrapure nucleotides in a proprietary reaction buffer. This ready-to-use mix is convenient and significantly reduces time-consuming optimization.

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------------------|----------|---------|
| UB71196S1 | HotStart-IT™ Taq Master Mix (2X) | 25 rxns | \$44.40 |
| UB71196S2 | HotStart-IT™ Taq Master Mix (2X) | 100 rxns | 150.30 |
| UB71196S3 | HotStart-IT™ Taq Master Mix (2X) | 500 rxns | 617.60 |

USB BUFFERS FOR PCR

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| UB71167S1 | Magnesium Chloride (MgCl ₂) 25mM Solution | 1 mL | \$24.20 |
| UB71167S2 | Magnesium Chloride (MgCl ₂) 25mM Solution | 5 x 1 mL | 51.50 |
| UB71165S1 | PCR Reaction Buffer with MgCl ₂ (10X) | 1 mL | 28.80 |
| UB71166S1 | PCR Reaction Buffer without MgCl ₂ (10X) | 1 mL | 28.80 |

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USB provides the PCR tools needed for a variety of applications. High quality USB Taq DNA Polymerase, Taq PCR Master Mixes and Ultrapure PCR Nucleotides will routinely give reliable results. In addition, kits for RT-PCR are available in both One-Step and Two-Step formats. For PCR purification, USB offers ExoSAP-IT®, the revolutionary clean-up tool that eliminates dNTPs and primers fast, with no columns and no sample loss.

USB Taq DNA POLYMERASE

Taq DNA Polymerase is a thermostable enzyme derived from *Thermus aquaticus* which is purified from *E. coli* overexpressing native Taq DNA Polymerase. USB Taq is functionally tested and has no detectable contaminating endonucleases or exonucleases. Taq DNA Polymerase withstands repeated incubations at 95°C without a significant decrease in enzyme activity, and is suitable for routine PCR. USB Taq DNA Polymerase is supplied with 10X PCR Buffer plus a separate tube of 25mM MgCl₂ for optimizing PCR conditions. Each lot is tested for product yield and length in PCR amplification.

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------|---------------|----------|
| UB71160S1 | Taq DNA Polymerase, 5 units/μL | 50 units | \$17.50 |
| UB71160S2 | Taq DNA Polymerase, 5 units/μL | 250 units | 87.30 |
| UB71160S3 | Taq DNA Polymerase, 5 units/μL | 1000 units | 281.30 |
| UB71160S4 | Taq DNA Polymerase, 5 units/μL | 5 x 250 units | 351.60 |
| UB71160S5 | Taq DNA Polymerase, 5 units/μL | 5000 units | 1,282.40 |

USB Taq PCR MASTER MIX

USB Taq PCR Master Mix is supplied as a convenient 2X pre-mixed formulation containing USB Taq DNA Polymerase, Ultrapure nucleotides and reaction buffer optimized for a wide variety of PCR applications. Use of Taq PCR Master Mix provides for robust and reliable performance in PCR amplification. Since the mix is prepared from high quality reagents and is thoroughly QC tested, experimental variability is significantly reduced.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| UB71162S1 | Taq PCR Master Mix (2X) <i>Sufficient for 100 reactions</i> | 100 rxns | \$106.20 |

USB RubyTaq™ DNA POLYMERASE

RubyTaq™ DNA Polymerase contains high-quality USB Taq DNA Polymerase with two inert dyes that serve as tracking dyes in gel electrophoresis. This greatly simplifies analysis of PCR reactions because no loading dyes or compounds that increase sample density need to be added prior to gel electrophoresis. During gel electrophoresis, RubyTaq™ separates into 2 colors, magenta and yellow, for easy visualization (Figure 1). The magenta dye runs in a range between 500 bp (2% gels) and 1500 bp (0.8% gels) and the yellow dye runs at less than 10 bp. Because the dyes are inert during PCR, RubyTaq™ DNA Polymerase provides the same outstanding performance as standard USB Taq DNA Polymerase.

| Product Number | Description | Pkg Size | Price |
|----------------|------------------------------------|------------|----------|
| UB71190S1 | RubyTaq™ DNA Polymerase, 1 unit/μL | 50 units | \$22.70 |
| UB71190S2 | RubyTaq™ DNA Polymerase, 1 unit/μL | 250 units | 85.40 |
| UB71190S3 | RubyTaq™ DNA Polymerase, 1 unit/μL | 1000 units | 283.80 |
| UB71190S4 | RubyTaq™ DNA Polymerase, 1 unit/μL | 5000 units | 1,265.00 |

USB VeriQuest™ qPCR MASTER MIX

Ready-to-use mix for real-time quantitative PCR

Applications

- Amplification from genomic DNA or cDNA
- Gene expression validation
- Genotyping assays
- Duplex PCR detection

The VeriQuest™ qPCR Master Mix is a ready-to-use mix for real-time quantitative PCR (qPCR) on all PCR instruments that use ROX as a Passive Reference Dye. It is formulated for use with fluorescent probes, such as TaqMan® probes. The master mix contains a chemically modified Taq DNA polymerase, MgCl₂, ultrapure nucleotides with an optimized dUTP:dTTP ratio, uracil-DNA glycosylase (UDG), and ROX Passive Reference Dye in a proprietary reaction buffer.

Features

- 2 Master Mixes are available
- One-tube master mix with ROX reference dye included
- Same protocols, same probes, and same primers for standard mode amplification
- Consistency over a broad dynamic range: 9 orders of magnitude linear detection range with a correlation coefficient = 0.999
- Exceptional performance with challenging GC-rich regions
- Detect 2 copies of target from genomic DNA and differentiate less than 2-fold differences
- Contains dUTP and uracil-DNA glycosylase for optional carryover contamination prevention
- Hot start PCR for room temperature reaction setup
- Stable at room temperature for 72 hours in a preassembled reaction
- Validated for use with a variety of 5' reporter fluorophores and 3' quenchers as well as TaqMan® MGB containing probes
- VeriQuest™ Probe qPCR Master Mix is formulated for use with fluorescent probes
- VeriQuest™ SYBR® Green qPCR Master Mix is formulated for SYBR® Green detection

| Product Number | Description | Pkg Size | Price |
|----------------|--|------------------------|----------|
| UB75650S1 | VeriQuest™ Probe qPCR Master Mix | 40 reactions (50 μL) | \$109.00 |
| UB75650S2 | VeriQuest™ Probe qPCR Master Mix | 200 reactions (50 μL) | 466.30 |
| UB75650S3 | VeriQuest™ Probe qPCR Master Mix | 400 reactions (50 μL) | 870.80 |
| UB75650S4 | VeriQuest™ Probe qPCR Master Mix | 1000 reactions (50 μL) | 1,972.70 |
| UB75650S5 | VeriQuest™ Probe qPCR Master Mix | 2000 reactions (50 μL) | 3,676.20 |
| UB75600S1 | VeriQuest™ qPCR SYBR® Green Master Mix | 40 reactions (50 μL) | 109.00 |
| UB75600S2 | VeriQuest™ qPCR SYBR® Green Master Mix | 200 reactions (50 μL) | 445.20 |
| UB75600S3 | VeriQuest™ qPCR SYBR® Green Master Mix | 400 reactions (50 μL) | 802.50 |
| UB75600S4 | VeriQuest™ qPCR SYBR® Green Master Mix | 1000 reactions (50 μL) | 1,896.50 |
| UB75600S5 | VeriQuest™ qPCR SYBR® Green Master Mix | 2000 reactions (50 μL) | 3,653.90 |

ExoSAP-IT PCR product cleanup



Single-step PCR cleanup saves time and money, making it more efficient than column purification.

Time saving

- Single-step PCR cleanup
- Easy to clean up multiple samples at the same time
- Eliminates hassle of columns

Effective

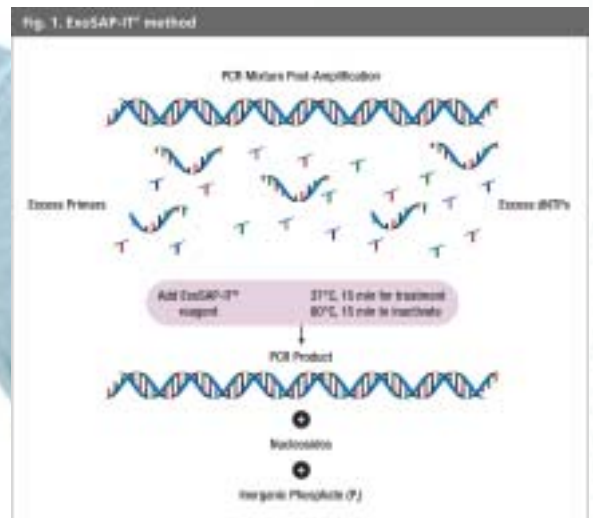
- Enzymatic cleanup removes primers and dNTPs
- Zero sample loss

Better value

- Easier workflow and lower cost per prep than columns

Description

The ExoSAP-IT® method is a unique, one-step enzymatic cleanup of PCR products that eliminates unincorporated primers and dNTPs so they do not interfere with downstream sequencing or SNP analysis. The ExoSAP-IT® cleanup reagent, based on Exonuclease I and Shrimp Alkaline Phosphatase, is added directly to the PCR product to degrade primers and dephosphorylate dNTPs that were not consumed in the reaction (Figure 1). Since the ExoSAP-IT® reagent is active in commonly used PCR buffers, no buffer exchange is required. Treatment is carried out for 15 minutes at 37°C and is followed by a 15-minute incubation period at 80°C to completely inactivate both enzymes. PCR products are then immediately ready for downstream sequencing reactions without any additional manipulation.



| Product Number | Description | Pkg Size | Price |
|----------------|-------------|-----------|----------|
| UB78200 | ExoSAP-IT® | 100 rxns | \$121.10 |
| UB78201 | ExoSAP-IT® | 500 rxns | 473.40 |
| UB78202 | ExoSAP-IT® | 2000 rxns | 1,505.80 |
| UB78205 | ExoSAP-IT® | 5000 rxns | 3,543.10 |

MOLECULAR BIOLOGY

PCR PURIFICATION

MACHEREY-NAGEL NucleoTraP® CR PCR CLEAN-UP

Fast and efficient PCR clean-up

The NucleoTraP® CR extraction system is especially designed for direct purification of DNA fragments from PCR assays without gel electrophoresis. DNA is reversibly adsorbed to the matrix with the aid of chaotropic agents. The NucleoTraP® CR matrix can selectively bind DNA fragments ≥ 100 bp, while the primer and primer-dimer molecules remain in solution. After two washing steps, the DNA is eluted in a low salt elution buffer (5 mM Tris-HCl, pH 8.5) or another low salt medium (e.g. H₂O, pH 8.0). The eluted DNA shows a very high purity. All impurities such as enzymes, nucleotides and primer molecules are quantitatively removed. The eluted DNA can be used directly for all kinds of cloning experiments (ligation reactions, labeling reactions).

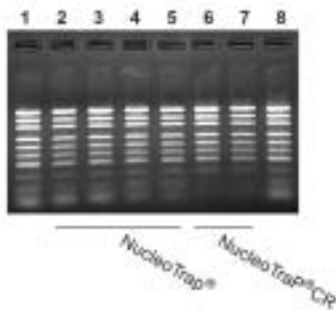
- Silica-matrix technology
- Direct purification of PCR products
- Quantitative removal of primer and primer-dimer molecules
- High binding capacity of DNA fragments
- Elution in low-salt buffer or distilled water
- 10 μ L NucleoTraP® CR suspension binds up to 6 μ g DNA



A mixture of a 1000 bp PCR product and 4 μ g added primer (20 bp) was purified using NucleoTraP® CR.

The PCR product was eluted with 50 μ L distilled water (pH 8.0). 10 μ L of the reaction mixture were applied to a 5% agarose gel.

- 1: Molecular weight marker (100 bp ladder)
- 2: PCR product with additional primer molecules
- 3: PCR product after purification with NucleoTraP® CR



Purification of pUC19 - MspI DNA fragments using NucleoTraP® CR and NucleoTrap®

- 1, 8: DNA fragments (pUC19 - MspI, spiked with primer, 20mer), unpurified
- 2, 3: DNA fragments from TAE gel, purified using NucleoTrap®
- 4, 5: DNA fragments from TBE gel, purified using NucleoTrap®
- 6, 7: DNA fragments in PCR buffer, purified using NucleoTraP® CR

The figure shows the efficient primer removal using the NucleoTraP® CR kit.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| MCN74058710 | NucleoTraP® CR PCR Clean Up, 10 Preps Includes: NucleoTraP® CR Suspension and Buffers | Kit | \$29.60 |
| MCN740587 | NucleoTraP® CR PCR Clean Up, 100 Preps Includes: NucleoTraP® CR Suspension and Buffers | Kit | 113.40 |

MACHEREY-NAGEL NucleoSpin® Extract II

Direct purification of PCR products

The NucleoSpin® Extract II procedure is the easiest method of direct purification of PCR products as well as for purifying DNA fragments from agarose gel. The kit includes one buffer for both applications.

With the NucleoSpin® Extract II method, DNA binds in the presence of chaotropic salt to a silica membrane. The binding mixture is loaded directly onto NucleoSpin® Extract II columns. Contaminations like salts and soluble macromolecular components are removed by a simple washing step with ethanolic buffer NT3. Pure DNA is finally eluted under low ionic strength conditions with slightly alkaline buffer NE (5 mM Tris-Cl, pH 8.5).

- Silica-membrane technology
- Effective removal of primers
- High recovery even for small fragments ≥ 65 bp
- Reduced elution volume: 15 μ L
- Two applications in one kit — PCR clean-up and Gel extraction
- Fast procedure

NucleoSpin® Extract II procedure for extraction of DNA from agarose gels



| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| MCN74060910 | NucleoSpin® Extract II, 10 Preps Includes: NucleoSpin® Extract II Columns 2 mL NucleoSpin® Collecting Tubes Buffers | Kit | \$29.10 |
| MCN74060950 | NucleoSpin® Extract II, 50 Preps Includes: NucleoSpin® Extract II Columns 2 mL NucleoSpin® Collecting Tubes Buffers | Kit | 94.70 |
| MCN740609250 | NucleoSpin® Extract II, 250 Preps Includes: NucleoSpin® Extract II Columns 2 mL NucleoSpin® Collecting Tubes Buffers | Kit | 357.30 |

USB EXONUCLEASE I

Exonuclease I hydrolyzes single-stranded DNA in the 3'→5' direction, releasing 5'-mononucleotides and leaving the terminal 5'-dinucleotide intact. Hydrolysis is processive and cannot proceed if the 3' terminus is phosphorylated. Exonuclease I can be used to measure the endonucleolytic cleavage of covalently closed circular single-stranded DNA reacted with an endonuclease of interest. In addition, DNA helicase activity can be measured utilizing Exonuclease I.

Exonuclease I is particularly useful in preparing the products of PCR for applications involving sequencing or labeling methods. Typically, the excess primers and any other extraneous single-stranded DNA present in PCR products will interfere with subsequent enzymatic reactions involving DNA synthesis. The hydrolytic properties of Exonuclease I degrade all single-stranded DNA present in the PCR mixture allowing the product to be used more efficiently in other applications. When combined with Shrimp Alkaline Phosphatase (UB70092) for dNTP dephosphorylation, the use of alternative purification methods, such as columns, gels or magnetic separations, are completely eliminated.

| Product Number | Description | Pkg Size | Price |
|----------------|---|------------|---------|
| UB70073Z | Exonuclease I, Standard Conc.: 10 units/μL 2500units | 2500 units | \$96.90 |
| UB70073X | Exonuclease I, Standard Conc.: 10 units/μL 5000units | 5000 units | 180.20 |

USB SHRIMP ALKALINE PHOSPHATASE, RECOMBINANT (rSAP)

rShrimp Alkaline Phosphatase (rSAP) is a high specific activity, heat-labile alkaline phosphatase purified from a recombinant source and originally isolated from *Pandalus borealis* (arctic shrimp).

rShrimp Alkaline Phosphatase has approximately the same specific activity as Calf Intestinal Alkaline Phosphatase (CIAP), and like CIAP, is active in virtually all restriction enzyme reaction buffers. Unlike CIAP, rShrimp Alkaline Phosphatase is completely and irreversibly inactivated by heating reactions at 65°C for 15 min.

Applications:

1. Dephosphorylation of DNA prior to cloning
2. PCR Clean-Up for sequencing and SNP applications
3. Dephosphorylation of DNA prior to end-labelling using T4 PNK or OptiKinase
4. Dephosphorylation of RNA
5. Protein dephosphorylation

Proven Performance – the Phosphatase benchmark

- Purified from a recombinant source
- 100% heat-inactivated in 5 min at 65°C
- Significantly improved storage stability at lower temperatures
- Very high specific activity
- Removes 5'-phosphates from DNA, RNA, dNTPs and proteins
- May be added directly to restriction enzyme digests
- No vector purification necessary
- Requires no supplemental zinc or other additives for activity
- Works direct in many different buffers
- Easy treatment of unincorporated dNTPs in PCR products prior to DNA sequencing or SNP analysis

| Product Number | Description | Pkg Size | Price |
|----------------|---|------------|---------|
| UB78390S1 | Shrimp Alkaline Phosphatase, Recombinant (rSAP) | 500 units | \$93.30 |
| UB78390S2 | Shrimp Alkaline Phosphatase Recombinant (rSAP) | 1000 units | 160.20 |
| UB78390S3 | Shrimp Alkaline Phosphatase, Recombinant (rSAP) | 5000 units | 495.30 |

USB SBE CLEAN-UP REAGENT

SBE Clean-Up Reagent is a specialized formulation of ExoSAP-IT[®], which is based on enzymatic degradation of unconsumed primers and dNTPs present in PCR products. SBE Clean-Up Reagent has been designed for use with the Beckman Coulter BioSciences SNPware[™] Core Reagent Kit (PN 101-04-300).

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------|----------|------------|
| UB78260S1 | SBE Clean-Up Reagent | 864 μL | \$2,582.40 |

USB SNP-IT[™] CLEAN-UP REAGENT

SNP-IT[™] Clean-Up Reagent is another specialized formulation of ExoSAP-IT[®], which is based on enzymatic degradation of unconsumed primers and dNTPs present in PCR products. SNP-IT[™] Clean-Up Reagent has been designed for use with the Orchid BioSciences SNPware[™] UHT Core Reagent Kit (PN 101-0043-00).

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|------------|
| UB78320S1 | SNP-IT [™] Clean-Up Reagent | 864 μL | \$2,582.40 |

USB ULTRAPURE PCR NUCLEOTIDE MIXES

USB offers an extensive selection of Ultrapure nucleotides for a wide variety of applications. All USB Ultrapure nucleotides are functionally tested in PCR with USB Taq DNA Polymerase. Testing ensures that you are assured reliable and consistent results.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| UB77212S1 | PCR Nucleotide Mix 10mM solution each: dATP, dCTP, dGTP, dTTP | 500 μL | \$87.80 |
| UB77119S1 | PCR Nucleotide Mix 25mM solution each: dATP, dCTP, dGTP, dTTP | 500 μL | 197.60 |
| UB77330S1 | PCR Nucleotide Mix with dUTP 10mM solution each: dATP, dCTP, dGTP, dUTP | 500 μL | 87.80 |

USB PCR PRODUCT PRE-SEQUENCING KIT

The PCR Product Pre-Sequencing Kit uses Shrimp Alkaline Phosphatase and Exonuclease I, to effectively remove excess dNTPs and primers present in the final PCR product reaction mixture. The enzymes are conveniently added to an aliquot of the PCR product mixture, incubated at 37°C, and then inactivated at 80°C. The PCR product is ready to be sequenced with standard sequencing reagents.

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------|-----------|----------|
| UB70995 | PCR Product Pre-Sequencing Kit | 100 rxns | \$98.40 |
| UB70996 | PCR Product Pre-Sequencing Kit | 500 rxns | 354.30 |
| UB70997 | PCR Product Pre-Sequencing Kit | 2000 rxns | 1,215.50 |

USB A-Taq-IT[™] PCR KIT

The A-Taq-IT[™] PCR Kit combines USB Taq DNA Polymerase and ExoSAP-IT[®] in one kit to offer a complete solution for amplification and purification of PCR products.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| UB71175 | A-Taq-IT [™] PCR Kit Includes: Taq DNA Polymerase, 250 units 10mM PCR Nucleotide Mix, Ultrapure 10X PCR Buffer 10X PCR Buffer without MgCl ₂ 25mM MgCl ₂ PCR-Qualified Water, Ultrapure ExoSAP-IT [®] | 100 rxns | \$309.30 |

USB THERMO Sequenase™ CYCLE SEQUENCING KIT

The Thermo Sequenase™ Cycle Sequencing Kit features an optimized protocol which requires as little as fmol amounts of template DNA. The use of Thermo Sequenase™ allows for equally efficient incorporation of both ddNTPs and dNTPs in cycle sequencing reactions resulting in very uniform band intensities which can be read accurately. The characteristics of thermostability and accuracy make Thermo Sequenase™ DNA Polymerase an excellent enzyme for cycle sequencing methods. This kit offers the choice of a three-dNTP extended primer method with internal-labeled dNTPs or a 5' end-labeled primer method.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| UB78500 | Thermo Sequenase™ Cycle Sequencing Kit Includes: Thermo Sequenase™ Thermostable Pyrophosphatase Control DNA pUC18 Control Primer (-40 Forward, 23-mer) Cycle Mix 7-deaza-dGTP Cycle Mix dATP Cycle Mix dTTP Cycle Mix dCTP ddGTP Termination Mix (7-deaza-dGTP) ddATP Termination Mix (7-deaza-dGTP) ddTTP Termination Mix (7-deaza-dGTP) ddCTP Termination Mix (7-deaza-dGTP) Reaction Buffer (concentrate) Stop Solution | 100 rxns | \$287.60 |

USB THERMO Sequenase™ DYE PRIMER MANUAL CYCLE SEQUENCING KIT

The Thermo Sequenase™ Dye Primer Manual Cycle Sequencing Kit is designed to be used with fluorescent dye-labeled primers and high-resolution fluorescence scanners. Sequencing reactions involve a termination step followed by standard slab gel electrophoresis and scanning of the gel to detect fluorescently tagged sequencing products.

The kit components have been optimized for sequencing directly from single bacterial colonies or plaques of M13 or lambda. No purification or pre-amplification is required. This kit permits rapid screening and sequencing of a large number of samples in a single working day. This kit can also be used for sequencing from 2 µ plasmids in yeast liquid culture. Isolation of yeast plasmids can be carried out using the USB Yeast Plasmid Isolation Kit.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| UB79260 | Thermo Sequenase™ Dye Primer Manual Cycle Sequencing Kit Includes: Thermo Sequenase™ with Thermostable Inorganic Pyrophosphatase Reaction Buffer (concentrate) Control DNA pUC19 Control Primer, TAMRA -40 Universal Forward Primer ddG Termination Mix (7-deaza-dGTP) ddA Termination Mix (7-deaza-dGTP) ddT Termination Mix (7-deaza-dGTP) ddC Termination Mix (7-deaza-dGTP) Formamide Loading Dye | 50 rxns | \$245.30 |



www.usb.affymetrix.com

USB Sequenase™ VERSION 2.0 DNA SEQUENCING KIT

The Sequenase™ Version 2.0 DNA Sequencing Kit features Sequenase™ Version 2.0 DNA Polymerase, the standard for high quality manual DNA sequencing. Sequenase™ Version 2.0 DNA polymerase is a genetically engineered form of T7 DNA polymerase which retains extraordinary polymerase activity with virtually no 3'→5' exonuclease activity. It is highly processive, able to effectively incorporate nucleotide analogs for sequencing (dideoxy NTPs, -thio dNTP, dITP, 7-deaza-dGTP, etc.) and is not easily impeded by template secondary structure. The kit includes all the reagents necessary to achieve high quality results. Use of the specially formulated buffers and mixes included in this core kit will maximize yield of sequence information.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| UB70770 | Sequenase™ Version 2.0 DNA Sequencing Kit Includes: Sequenase™ Version 2.0 DNA Polymerase Inorganic Pyrophosphatase Enzyme Dilution Buffer Glycerol Enzyme Dilution Buffer Sequenase Reaction Buffer (5X) Dithiothreitol Solution Mn Buffer Control DNA M13 mp18 Primer (-40 Universal) Labeling Mix (dGTP, 5X) ddGTP Termination Mix (for dGTP) ddATP Termination Mix (for dGTP) ddTTP Termination Mix (for dGTP) ddCTP Termination Mix (for dGTP) Sequencing Extending Mix (for dGTP) Labeling Mix (dTTP, 5X) ddGTP Termination Mix (for dTTP) ddATP Termination Mix (for dTTP) ddTTP Termination Mix (for dTTP) ddCTP Termination Mix (for dTTP) Sequencing Extending Mix (for dTTP) Stop Solution | 100 rxns | \$287.60 |

USB Sequenase™ QUICK DENATURE PLASMID DNA SEQUENCING KIT

The Sequenase™ Quick Denature Plasmid Sequencing Kit offers two simple and efficient denaturation methods that do not require precipitation of plasmid DNA. Both methods, Glycol/Glycerol and Alkali/Acid, allow for rapid generation of denatured template DNA suitable for use with standard Sequenase™ Version 2.0 DNA Polymerase. In addition, this kit contains the 7-deaza-dGTP nucleotide mixes which provide stronger band intensities for resolving sequencing gel compressions.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| UB70140 | Sequenase™ Quick Denature Plasmid Sequencing Kit Includes: Sequenase™ Version 2.0 DNA Polymerase with Inorganic Pyrophosphatase Plasmid Reaction Buffer (concentrate) Plasmid Denaturing Reagent NaOH, 1.0M Solution HCl, 1.0M Solution Dithiothreitol Solution Mn Buffer Control DNA pUC19 Primer (-40 Forward, 23-mer) Primer (-50 Reverse, 21-mer) Labeling Mix (7-deaza-dGTP, 5X) ddGTP Termination Mix (7-deaza-dGTP) ddATP Termination Mix (7-deaza-dGTP) ddTTP Termination Mix (7-deaza-dGTP) ddCTP Termination Mix (7-deaza-dGTP) Sequencing Extending Mix (for 7-deaza-dGTP) Stop Solution | 100 rxns | \$287.60 |



USB is recognized as the leading supplier of quality reagents for manual sequencing, including the well established Sequenase™ and Thermo Sequenase™ product lines. For sequence verification and accurate results, USB provides a selection of cycle sequencing and Sequenase kits, along with primers and related products.

USB SEQUENCING PRIMERS

| Product Number | Description | Primer Sequence | Concentration | Pkg Size | Price |
|----------------|-------------------|-------------------------------|---------------|----------|---------|
| UB70705S1 | M13 -20 Universal | 5' GTAAAACGACGGCCAGT 3' | 0.5 pmol/μL | 50 pmol | \$42.70 |
| UB70706S1 | M13 -20 Universal | 5' GTAAAACGACGGCCAGT 3' | 5 pmol/μL | 250 pmol | 116.60 |
| UB70763S1 | M13 -40 Forward | 5' GTTTCCCAGTCACGAC 3' | 0.5 pmol/μL | 50 pmol | 43.90 |
| UB70736S1 | M13 -40 Forward | 5' GTTTCCCAGTCACGAC 3' | 5 pmol/μL | 250 pmol | 116.60 |
| UB70181S1 | M13 -40 Forward | 5' GTTTCCCAGTCACGACGTTGTA 3' | 20 pmol/μL | 500 pmol | 202.90 |
| UB73649S1 | M13 -48 Reverse | 5' AGCGGATAACAATTTACACAGGA 3' | 0.5 pmol/μL | 500 pmol | 202.90 |
| UB73648S1 | M13 -48 Reverse | 5' AGCGGATAACAATTTACACAGGA 3' | 5 pmol/μL | 5 nmol | 968.90 |
| UB71033S1 | M13 -50 Reverse | 5' TTGTGAGCGGATAACAATTTTC 3' | 0.5 pmol/μL | 50 pmol | 43.30 |
| UB70144S1 | M13 -50 Reverse | 5' TTGTGAGCGGATAACAATTTTC 3' | 2 pmol/μL | 200 pmol | 101.40 |
| UB70182S1 | M13 -50 Reverse | 5' TTGTGAGCGGATAACAATTTTC 3' | 20 pmol/μL | 500 pmol | 202.90 |
| UB71809S1 | M13 Reverse | 5' TTCACACAGGAAACAG 3' | 0.5 pmol/μL | 50 pmol | 42.50 |
| UB71803S1 | M13 Reverse | 5' TTCACACAGGAAACAG 3' | 5 pmol/μL | 250 pmol | 116.60 |
| UB70145S1 | Primer-40 Forward | 5' GTTTCCCAGTCACGACGTTGTA 3' | 2 pmol/μL | 200 pmol | 101.40 |
| UB71815S1 | SP6 Promoter | 5' CGATTTAGGTGACTATAG 3' | 0.5 pmol/μL | 50 pmol | 42.50 |
| UB70801S1 | SP6 Promoter | 5' CGATTTAGGTGACTATAG 3' | 5 pmol/μL | 250 pmol | 116.60 |
| UB71200S1 | T3 Promoter | 5' ATTAACCCTCACTAAAG 3' | 5 pmol/μL | 250 pmol | 116.60 |
| UB70803S1 | T7 Promoter | 5' TAATACGACTCACTATAGGG 3' | 5 pmol/μL | 250 pmol | 116.60 |



USB LABELING MIX AND TERMINATION MIXES FOR SEQUENCING

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|---------|
| UB70710S1 | Labeling Mix for dGTP | 100 μL | \$43.90 |
| UB70712S1 | Labeling Mix for dITP | 100 μL | 43.90 |
| UB70740S1 | Labeling Mix for 7-deaza-dGTP | 100 μL | 54.50 |
| UB70714S1 | ddA Termination Mix for dGTP | 250 μL | 43.90 |
| UB70716S1 | ddC Termination Mix for dGTP | 250 μL | 43.90 |
| UB70718S1 | ddG Termination Mix for dGTP | 250 μL | 43.90 |
| UB70720S1 | ddT Termination Mix for dGTP | 250 μL | 43.90 |
| UB70728S1 | ddA Termination Mix for dITP | 125 μL | 50.00 |
| UB70730S1 | ddC Termination Mix for dITP | 125 μL | 50.00 |
| UB70732S1 | ddG Termination Mix for dITP | 125 μL | 50.00 |
| UB70734S1 | ddT Termination Mix for dITP | 125 μL | 50.00 |
| UB70742S1 | ddG Termination Mix for 7-deaza-dGTP | 250 μL | 50.00 |
| UB70744S1 | ddA Termination Mix for 7-deaza-dGTP | 250 μL | 50.00 |
| UB70746S1 | ddT Termination Mix for 7-deaza-dGTP | 250 μL | 50.00 |
| UB70748S1 | ddC Termination Mix for 7-deaza-dGTP | 250 μL | 50.00 |

MACHERY-NAGEL NucleoSEQ DYE TERMINATOR REMOVAL COLUMNS



NucleoSEQ will remove unincorporated dye terminators that can negatively affect analysis of sequencing results. Excess of dye terminators causes so-called "dye blobs" resulting in a partly unreadable sequence. The convenient spin columns are designed for fast, effective and cost efficient clean-up of sequencing reactions. The columns are prefilled with a dry size exclusion matrix which allows an efficient removal of dye terminators.

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| MCN74052310 | NucleoSEQ, 10 Preps Includes: Prefilled NucleoSEQ columns 2 mL collecting Tubes | Kit | \$35.20 |
| MCN74052350 | NucleoSEQ, 50 Preps Includes: Prefilled NucleoSEQ columns 2 mL collecting Tubes | Kit | 143.10 |
| MCN740523250 | NucleoSEQ, 250 Preps Includes: Prefilled NucleoSEQ columns 2 mL collecting Tubes | Kit | 533.30 |

MOLECULAR BIOLOGY ENZYMES

USB MOLECULAR BIOLOGY ENZYMES

Tested user friendly

USB is a leader in enzymology sustained by scientists with many years of experience and expertise in cloning and protein purification. The USB line of molecular biology products features heat-labile Shrimp Alkaline Phosphatase, OptiKinase™, for improved phosphorylation and labeling regardless of the base at the 5'-end, along with a variety of Tested User Friendly™ modifying enzymes, binding proteins, polymerases, exonucleases and more!

| Product Number | Description | Pkg Size | Price |
|----------------|---|------------|----------|
| UB70034Y | Calf Intestinal Alkaline Phosphatase (CIAP) | 1500 units | \$137.80 |
| UB78390S1 | Shrimp Alkaline Phosphatase (rSAP) | 500 units | 93.30 |
| UB78390S2 | Shrimp Alkaline Phosphatase (rSAP) | 1000 units | 160.20 |
| UB78390S3 | Shrimp Alkaline Phosphatase (rSAP) | 5000 units | 495.30 |
| UB70010Y | DNA Polymerase I | 500 units | 112.10 |
| UB70057Y | Exonuclease-Free Klenow | 125 units | 92.40 |
| UB70057Z | Exonuclease-Free Klenow | 750 units | 313.40 |
| UB2141Y | Klenow DNA Polymerase I | 300 units | 76.20 |
| UB2141Z | Klenow DNA Polymerase I | 1500 units | 286.00 |
| UB70775Y | Sequenase™ Version 2.0 DNA Polymerase | 200 units | 204.40 |
| UB70775Z | Sequenase™ Version 2.0 DNA Polymerase | 1000 units | 673.20 |
| UB70027S1 | T4 DNA Polymerase | 150 units | 77.50 |
| UB70027S2 | T4 DNA Polymerase | 750 units | 266.00 |
| UB70017Y | T7 DNA Polymerase | 50 units | 63.60 |
| UB70017Z | T7 DNA Polymerase | 250 units | 89.30 |
| UB78411S1 | rDNase I, RNase-Free | 1000 units | 87.20 |
| UB78411S2 | rDNase I, RNase-Free | 2500 units | 185.30 |
| UB14367S1 | DNase I, Solution | 100 units | 86.30 |
| UB14367S2 | DNase I, Solution | 500 units | 321.60 |
| UB14365S1 | DNase I, Lyophilized | 5 mg | 123.50 |
| UB78314S1 | Shrimp DNase, Recombinant | 100 units | 109.00 |
| UB78314S2 | Shrimp DNase, Recombinant | 500 units | 392.50 |
| UB70073Z | Exonuclease I | 2500 units | 96.90 |
| UB70073X | Exonuclease I | 5000 units | 180.20 |
| UB70023Y | Exonuclease III | 5000 units | 92.40 |
| UB70023Z | Exonuclease III | 25 ku | 327.10 |
| UB70040Y | Exonuclease V | 200 units | 225.40 |
| UB70040Z | Exonuclease V | 1000 units | 1,021.60 |
| UB78106Y | Exonuclease V, <i>RecB</i> , C, D | 200 units | 72.30 |
| UB78106Z | Exonuclease V, <i>RecB</i> , C, D | 1000 units | 395.20 |
| UB70082Y | Exonuclease VII | 200 units | 199.90 |
| UB70082Z | Exonuclease VII | 1000 units | 719.60 |
| UB27086501S1 | Lambda Exonuclease | 500 units | 63.70 |
| UB70025Y | T7 Gene 6 Exonuclease | 2000 units | 92.40 |
| UB70025Z | T7 Gene 6 Exonuclease | 10 ku | 327.10 |
| UB71960Y | Uracil-DNA Glycosylase | 100 units | 101.40 |
| UB78310S1 | Uracil-DNA Glycosylase, Heat-Labile | 100 units | 118.10 |
| UB78334X | OptiKinase™ | 500 units | 83.30 |
| UB78334Y | OptiKinase™ | 1000 units | 142.30 |
| UB78334Z | OptiKinase™ | 2500 units | 257.60 |
| UB70031Y | T4 Polynucleotide Kinase (PNK) | 500 units | 63.60 |
| UB70031Z | T4 Polynucleotide Kinase (PNK) | 1000 units | 109.00 |
| UB70031X | T4 Polynucleotide Kinase (PNK) | 2500 units | 197.60 |
| UB70020Y | <i>E. coli</i> DNA Ligase | 200 units | 71.20 |
| UB70020Z | <i>E. coli</i> DNA Ligase | 1000 units | 263.00 |
| UB70005Y | T4 DNA Ligase, 1 unit/μL | 100 units | 54.50 |
| UB70005X | T4 DNA Ligase, 1 unit/μL | 500 units | 199.90 |
| UB70042X | T4 DNA Ligase, 5 unit/μL | 500 units | 199.90 |

| Product Number | Description | Pkg Size | Price |
|----------------|--|------------|---------|
| UB21245S1 | T4 RNA Ligase | 600 units | \$68.30 |
| UB70011Y | <i>Bal</i> /31 Nuclease | 50 units | 98.40 |
| UB70196Y | Micrococcal Nuclease | 15 ku | 142.30 |
| UB70021S1 | Mung Bean Nuclease | 3000 units | 195.30 |
| UB70019S1 | S1 Nuclease | 10 ku | 60.50 |
| UB70950S1 | Pyrophosphatase, Inorganic 0.004 units/μL | 0.1 units | 50.00 |
| UB70953Y | Pyrophosphatase, Inorganic 0.04 units/μL | 1 unit | 56.00 |
| UB20240Y | Phosphodiesterase I | 100 units | 142.40 |
| UB70041Y | AMV Reverse Transcriptase | 200 units | 71.20 |
| UB70041Z | AMV Reverse Transcriptase | 1000 units | 263.00 |
| UB70456Y | M-MLV Reverse Transcriptase | 25 ku | 183.20 |
| UB70456Z | M-MLV Reverse Transcriptase | 100 ku | 524.70 |
| UB78040Y | <i>E. coli</i> RNA Polymerase | 100 units | 244.80 |
| UB74225Y | Poly(A) Polymerase, Yeast | 10 ku | 172.60 |
| UB74225Z | Poly(A) Polymerase, Yeast | 25 ku | 294.40 |
| UB70088S1 | SP6 RNA Polymerase | 1500 units | 63.10 |
| UB70088S2 | SP6 RNA Polymerase | 5000 units | 168.10 |
| UB70051Y | T3 RNA Polymerase | 1000 units | 65.10 |
| UB70051Z | T3 RNA Polymerase | 5000 units | 219.40 |
| UB70047Y | T7 RNA Polymerase, 20 units/μL | 6000 units | 109.00 |
| UB70001Y | T7 RNA Polymerase, 80 units/μL | 6000 units | 109.00 |
| UB70001Z | T7 RNA Polymerase, 80 units/μL | 30 ku | 441.60 |
| UB78020Y | Ribonuclease A, Lyophilized | 100 mg | 89.30 |
| UB70194Y | Ribonuclease A, Molecular Biology Grade, Solution | 1 mg | 25.00 |
| UB70194Z | Ribonuclease A, Molecular Biology Grade, Solution | 5 mg | 80.10 |
| UB21210S1 | Ribonuclease A, Solution | 100 mg | 165.10 |
| UB70054Y | Ribonuclease H | 250 units | 90.80 |
| UB70054Z | Ribonuclease H | 1000 units | 216.60 |
| UB27033002S1 | Ribonuclease I | 1 gm | 233.90 |
| UB27099101 | Ribonuclease T ₁ | 200 units | 107.80 |
| UB71570S1 | RNase Inhibitor (Human Placenta) | 5000 units | 216.30 |
| UB71571S1 | Ribonuclease Inhibitor (Recombinant) | 5000 units | 216.30 |
| UB78303Y | Topoisomerase II, Alpha | 200 units | 183.20 |
| UB78303Z | Topoisomerase II, Alpha | 500 units | 327.10 |
| UB70033S1 | Terminal Deoxynucleotidyl Transferase (TdT) | 500 units | 151.40 |
| UB70033S2 | Terminal Deoxynucleotidyl Transferase (TdT) | 2500 units | 558.70 |
| UB72250S1 | Endoproteinase Factor Xa | 50 μg | 125.00 |
| UB76230Y | Proteinase K | 100 mg | 113.20 |
| UB76230Z | Proteinase K | 500 mg | 462.80 |
| UB70052S1 | Tth Polymerase | 200 units | 118.20 |
| UB70052S2 | Tth Polymerase | 1000 units | 425.40 |
| UB75592S1 | SuperSAP (Enhanced Formulation) | 50 rxns | 111.90 |
| UB78340S1 | Endonuclease IV | 500 units | 166.80 |

MOLECULAR BIOLOGY

USB MOLECULAR BIOLOGY MARKERS AND PROTEINS

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|---------|
| UB70028Y | <i>RecA</i> Protein | 200 µg | \$92.40 |
| UB70028Z | <i>RecA</i> Protein | 1000 µg | 316.30 |
| UB70029Y | T4 Gene 32 Protein 1-5 µg/µL | 100 µg | 127.20 |
| UB70029Z | T4 Gene 32 Protein 1-5 µg/µL | 500 µg | 459.30 |
| UB74029Y | T4 Gene 32 Protein 10 µg/µL | 300 µg | 309.30 |
| UB74029Z | T4 Gene 32 Protein 10 µg/µL | 1000 µg | 821.70 |
| UB70076S1 | DNA, Activated Fish Sperm | 500 µg | 41.20 |
| UB70076S2 | DNA, Activated Fish Sperm | 2 mg | 152.90 |
| UB14375S1 | DNA, Calf Thymus | 100 mg | 38.40 |
| UB14375S2 | DNA, Calf Thymus | 1 gm | 256.20 |
| UB14380S1 | DNA, <i>E. coli</i> | 10 mg | 96.40 |
| UB14405S1 | DNA, Fish Sperm | 25 gm | 34.60 |
| UB14405S2 | DNA, Fish Sperm | 100 gm | 89.80 |
| UB14376S1 | DNA, Fish Sperm, Potassium Salt | 25 gm | 24.90 |
| UB14376S2 | DNA, Fish Sperm, Potassium Salt | 100 gm | 58.10 |
| UB78019S1 | DNA, Fish Sperm, Sodium | 10 gm | 115.90 |
| UB14377S1 | DNA, Fish Sperm, Sodium Salt | 25 gm | 25.80 |
| UB14377S2 | DNA, Fish Sperm, Sodium Salt | 100 gm | 83.00 |
| UB14394S1 | DNA-Cellulose, Double-Stranded (dsDNA-Cellulose) | 1 gm | 45.60 |
| UB14394S2 | DNA-Cellulose, Double-Stranded (dsDNA-Cellulose) | 5 gm | 197.70 |
| UB14394S3 | DNA-Cellulose, Double-Stranded (dsDNA-Cellulose) | 10 gm | 331.00 |
| UB14395S1 | DNA-Cellulose, Single-Stranded (ssDNA-Cellulose) | 1 gm | 45.60 |
| UB14395S2 | DNA-Cellulose, Single-Stranded (ssDNA-Cellulose) | 5 gm | 197.70 |
| UB14395S3 | DNA-Cellulose, Single-Stranded (ssDNA-Cellulose) | 10 gm | 331.00 |
| UB78018S1 | Lambda DNA, 0.5 µg/uL | 250 µg | 142.90 |
| UB78018S2 | Lambda DNA, 0.5 µg/uL | 500 µg | 226.30 |
| UB76620S1 | M13mp8, Single-Stranded, 0.2 µg/uL | 10 µg | 43.90 |
| UB76620S2 | M13mp8, Single-Stranded, 0.2 µg/uL | 50 µg | 127.20 |
| UB70704S1 | M13mp18, Single-Stranded, 0.2 µg/uL | 50 µL | 43.90 |
| UB70704S2 | M13mp18, Single-Stranded, 0.2 µg/uL | 50 µg | 127.20 |
| UB71706S1 | M13mp18 DNA, Single-Stranded, 1.0 µg/uL | 50 µg | 127.20 |
| UB71706S2 | M13mp18 DNA, Single-Stranded, 1.0 µg/uL | 200 µg | 267.10 |
| UB71547S1 | Oligo p(dT) Cellulose | 1 gm | 515.60 |
| UB19817S1 | Oligo p(dT) ₁₂₋₁₈ Sodium Salt | 5 units | 113.60 |
| UB19817S2 | Oligo p(dT) ₁₂₋₁₈ Sodium Salt | 25 units | 274.80 |
| UB20497S1 | Polyadenylic Acid, Potassium Salt (POLY [A]) | 100 mg | 145.50 |
| UB20497S2 | Polyadenylic Acid, Potassium Salt (POLY [A]) | 250 mg | 297.20 |
| UB20539S1 | Polydeoxy (Inosinate-Cytidylate) Acid, Sodium Salt | 5 units | 152.10 |
| UB20539S2 | Polydeoxy (Inosinate-Cytidylate) Acid, Sodium Salt | 25 units | 632.30 |
| UB76628S1 | pUC18 DNA, 0.2 µg/µL | 10 µg | 54.80 |
| UB76628S2 | pUC18 DNA, 0.2 µg/µL | 50 µg | 141.90 |
| UB76628S3 | pUC18 DNA, 0.2 µg/µL | 200 µg | 304.70 |
| UB74070S1 | pUC18 DNA, 1.0µg/µL | 50 µg | 137.80 |
| UB74070S2 | pUC18 DNA, 1.0µg/µL | 200 µg | 286.20 |
| UB76632S1 | pUC19 DNA, 0.2 µg/µL | 10 µg | 51.20 |
| UB76632S2 | pUC19 DNA, 0.2 µg/µL | 50 µg | 133.20 |
| UB76632S3 | pUC19 DNA, 0.2 µg/µL | 200 µg | 286.20 |

| Product Number | Description | Pkg Size | Price |
|----------------|-------------------------------|----------|----------|
| UB76634S1 | pUC19 DNA, 1.0 µg/µL | 50 µg | \$133.20 |
| UB76634S2 | pUC19 DNA, 1.0 µg/µL | 200 µg | 286.20 |
| UB70064S1 | Lambda <i>Bst</i> E II Digest | 100 µg | 67.30 |
| UB70061S1 | Lambda <i>Hind</i> III Digest | 100 µg | 71.00 |
| UB70061S2 | Lambda <i>Hind</i> III Digest | 5x100 µg | 258.10 |
| UB76710S1 | PCR Markers, 50 - 2000 bp | 250 µL | 159.10 |
| UB76712S1 | DNA Ladder, 100 bp | 500 µL | 159.10 |
| UB76714S1 | DNA Ladder, 1 kb plus | 500 µL | 159.10 |
| UB76722 | RNA Ladder, 0.1 - 1 kb | 50 µL | 165.10 |
| UB76724 | RNA Markers, 0.2 - 10 kb | 50 µL | 165.10 |

USB DNA BINDING PROTEIN

Single-Stranded DNA Binding Protein binds with high affinity in a cooperative manner to single-stranded DNA and does not bind well to double-stranded DNA by electron microscopy. It has also been used in conjunction with *RecA* protein for carrying out site-directed mutagenesis and to select sequences from libraries of double-stranded DNA. SSB may also stimulate specific DNA polymerases used in DNA sequencing reactions and has been used to target restriction endonuclease digestions to specific sites in single-stranded DNA for subsequent mutagenesis. SSB has been shown to be effective in fluorescence polarization assays and eliminates pausing when sequencing through strong secondary structure. More recently, SSB was used to help obtain longer read lengths in pyrosequencing for SNP analysis.

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| UB70032Y | Single-Stranded DNA Binding Protein (SSB) | 100 µg | \$154.20 |
| UB70032Z | Single-Stranded DNA Binding Protein (SSB) | 500 µg | 483.60 |

USB MUTATION DISCOVERY PROTEINS

USB *E. coli* Mut Proteins are ideal for mutation detection and mismatch repair studies. This class of proteins simplifies the study of genetic variations. Mut S Protein, for example, actually detects disruption of normal base pairings without using primers. These products are thoroughly tested to ensure functional integrity and are offered exclusively from USB.

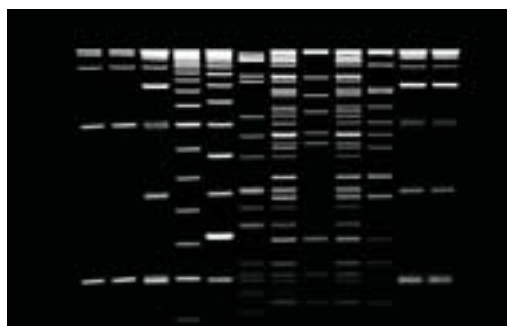
| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| UB71432S1 | Mut H | 5 µg | \$166.60 |
| UB71435S1 | Mut L | 25 µg | 218.10 |
| UB71422S1 | Mut S | 25 µg | 218.10 |
| UB71428S1 | Mut Y (<i>E. coli</i> Adenine DNA Glycosylase) | 100 µg | 279.40 |
| UB78333S1 | T4 Endonuclease VII | 1 mL | 27.30 |

NUCLEIC ACID ELECTROPHORESIS GELS

ELCHROM READY-TO-USE GELS

Elchrom Mini gels are made of innovative hydrophilic materials that are non-acrylamide and non-agarose. The gels are specially designed for easy handling and convenience. They provide high performance, resolution and throughput.

- Resistant to tearing
- Stable up to 95°C
- Inert; no enzyme inhibition
- Highly transparent with low background
- Covalently bound to plastic backing for easy handling
- Stained bands can be excised and used directly for PCR, sequencing and cloning
- Size range: 20 bp to 22000 bp
- Available in 8 formats with 5 different running distances
- Wells are compatible with multichannel pipettes
- Compatible with most electrophoresis units. Best results are clearly achieved when gels are used in Elchrom's Origins electrophoresis unit (see page 124).



Precast Spreadex® EL 400 Mini gel at 200V for 2 hours in a regular electrophoresis unit.

ELCHROM GMA (Gene Mutation Analysis)

For SSCP and Heteroduplex Analysis

Elchrom's GMA gels are optimized for single strand conformational polymorphism (SSCP) and heteroduplex analysis. These methods are widely used for the detection of point mutations in DNA.

The SSCP method relies on different migration rates of single stranded DNA fragments in a non-denaturing gel run at a low temperature. Two single stranded DNA fragments whose sequence differs in just one base often migrate at rates that are sufficiently different to allow complete separation of the two bands. For successful SSCP, the length of the DNA fragment should be in the range of 150 to 350 bp. Gel electrophoresis should be performed at constant temperatures in the range of 5 to 20°C. Since the separation method is sensitive to small changes of temperature during electrophoresis, as well as the electric field strength, we recommend the use of the gel in Elchrom's Origins electrophoresis apparatus (see page 156).

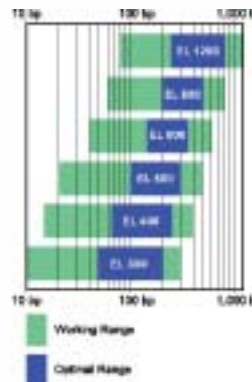
| Product Number | Description | Pkg Size | Price |
|----------------|------------------------------------|----------|----------|
| EL3501 | GMA Mini, 8 & 12 wells/gel | 10 gels | \$215.70 |
| EL3526 | GMA Wide Mini S-2x13, 13 wells/gel | 12 gels | 331.70 |
| EL3548 | GMA Wide Mini S-2x25, 25 wells/gel | 12 gels | 331.70 |



ELCHROM Spreadex®

Gels with the highest resolving power

Spreadex® gels provide unsurpassed resolution in the size range of 20 bp to 1000 bp. Each Spreadex® gel is characterized by an exclusion limit (EL). DNA molecules whose size is above the limit do not migrate in the gel even after prolonged electrophoresis. The gels are available with 6 different exclusion limits (see gel selection guide below), allowing you to zoom in the size range of interest. Ideal for use in microsatellite analysis, AFLP, small DNA fragment analysis (oligos, siRNA, methylated DNA), multiplex PCR, RFLP and GMOs.



Gel Selection Guide for Elchrom Spreadex® gels

| Product Number | Description* | Pkg Size | Price |
|----------------|---|----------|----------|
| EL3410 | Spreadex® Starter Kit Includes: Mini gels: EL 400, 600 and 800 Catamarans S-8 and S-12 40X TAE Running buffer, 50 mL Forceps, 1 | Kit | \$160.50 |

Optimal Separation Range 50-200 bp, Working Range 10-300 bp

| | | | |
|--------|--------------------------------------|---------|--------|
| EL3413 | EL 300 Mini, 8 & 12 wells/gel | 10 gels | 257.90 |
| EL3426 | EL 300 Wide Mini S-2x13, 13 wells | 12 gels | 380.90 |
| EL3442 | EL 300 Wide Mini S-2x25, 25 wells | 12 gels | 452.10 |
| EL3472 | EL 300 Wide Mini S-2x104L, 104 wells | 12 gels | 610.80 |

Optimal Separation Range 100-300 bp, Working Range 20-500 bp

| | | | |
|--------|---|---------|--------|
| EL3415 | EL500 Mini, 8 & 12 wells/gel | 10 gels | 257.90 |
| EL3428 | EL500 Wide Mini S-2x13, 13 wells/gel | 12 gels | 380.90 |
| EL3494 | EL500 Wide Mini S-4x25, 25 wells/gel | 24 gels | 452.10 |
| EL3474 | EL500 Wide Mini S-2x104L, 104 wells/gel | 12 gels | 610.80 |

Optimal Separation Range 200-500 bp, Working Range 60-800 bp

| | | | |
|--------|---|---------|--------|
| EL3417 | EL800 Mini, 8 & 12 wells/gel | 10 gels | 257.90 |
| EL3456 | EL800 Wide Mini S-4x13, 13 wells/gel | 24 gels | 380.90 |
| EL3476 | EL800 Wide Mini S-2x104L, 104 wells/gel | 12 gels | 610.80 |
| EL3486 | EL800 Wide Mini S-2x200, 200 wells/gel | 12 gels | 610.80 |

Optimal Separation Range 250-800 bp, Working Range 60-800 bp

| | | | |
|--------|--|---------|--------|
| EL3419 | EL1200 Mini, 8 & 12 wells/gel | 10 gels | 257.90 |
| EL3431 | EL1200 Mini Wide S-2x13, 13 wells/gel | 12 gels | 380.90 |
| EL3497 | EL1200 Mini Wide S-4x25, 25 wells/gel | 24 gels | 452.10 |
| EL3477 | EL1200 Mini Wide S-2x104L, 104 wells/gel | 12 gels | 610.80 |

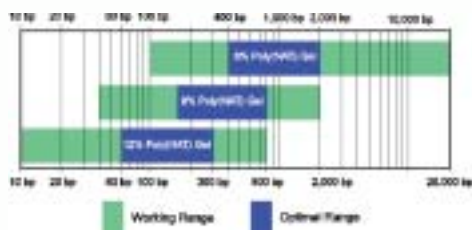
* Each box contains: 3 x 1.0 mL sample loading buffer (except Wide Mini S-4x13 which contains 1.0 mL sample loading buffer), Quality Control Certificate, short instructions, and a nylon string for removal of the plastic backing. Other gel sizes are available.

NUCLEIC ACID ELECTROPHORESIS GELS

ELCHROM Poly(NAT)[®]

For fine separations in broad size ranges

Poly(NAT)[®] gels are the best choice for demanding separations in broad size ranges. They cover the DNA size range from about 50 bp to 22000 bp (see gel selection guide below). These gels are ideal for RFLP, RAPD, PCR, RNA up to 2 kb and minisatellite analysis. Poly(NAT)[®] gels are non-toxic, highly transparent and have low DNA diffusion after electrophoresis.



Gel selection guide for Elchrom Poly(NAT)[®] gels.

| Product Number | Description* | Pkg Size | Price |
|---|---|----------|----------|
| Optimal Separation Range 60-300 bp: Working Range 10-800 bp | | | |
| EL3012 | 12% Poly(NAT) [®] Mini, 8 & 12 wells/gel | 10 gels | \$224.80 |
| EL3028 | 12% Poly(NAT) [®] Wide Mini S-2x13, 13 wells/gel | 12 gels | 325.40 |
| EL3050 | 12% Poly(NAT) [®] Wide Mini S-2x25, 25 wells/gel | 12 gels | 325.40 |
| EL3054 | 12% Poly(NAT) [®] Wide Mini S-4x13, 13 wells/gel | 24 gels | 325.40 |
| EL3098 | 12% Poly(NAT) [®] Wide Mini S-4x25, 25 wells/gel | 24 gels | 325.40 |
| Optimal Separation Range 180-800 bp: Working Range 50-2000 bp | | | |
| EL3009 | 9% Poly(NAT) [®] Mini, 8 & 12 wells/gel | 10 gels | 224.80 |
| EL3027 | 9% Poly(NAT) [®] Wide Mini S-2x13, 13 wells/gel | 12 gels | 325.40 |
| EL3049 | 9% Poly(NAT) [®] Wide Mini S-2x25, 25 wells/gel | 12 gels | 325.40 |
| EL3053 | 9% Poly(NAT) [®] Wide Mini S-4x13, 13 wells/gel | 24 gels | 325.40 |
| EL3097 | 9% Poly(NAT) [®] Wide Mini S-4x25, 25 wells/gel | 24 gels | 325.40 |
| Optimal Separation Range 400-2000 bp: Working Range 100-20000 bp | | | |
| EL3006 | 6% Poly(NAT) [®] Mini, 8 & 12 wells/gel | 10 gels | 224.80 |
| EL3026 | 6% Poly(NAT) [®] Wide Mini S-2x13, 13 wells/gel | 12 gels | 325.40 |
| EL3048 | 6% Poly(NAT) [®] Wide Mini S-2x25, 25 wells/gel | 12 gels | 325.40 |
| EL3052 | 6% Poly(NAT) [®] Wide Mini S-4x13, 13 wells/gel | 24 gels | 325.40 |
| EL3096 | 6% Poly(NAT) [®] Wide Mini S-4x25, 25 wells/gel | 24 gels | 325.40 |

* Each box contains: 1.0 mL sample loading buffer, Quality Control Certificate, short instructions, and a nylon string for removal of the plastic backing.

ELCHROM PCR Check/IT

Gels for DNA analysis and High Throughput PCR analysis

PCR Check/IT hydrogels are the only reusable non-agarose precast gels for PCR checking. PCR Check/IT gels cover the size range from 100 bp to 4,000 bp and are available with or without EtBr. PCR Check/IT gels can be reused up to 10 times by running the PCR products of the previous run in reverse.

| Product Number | Description* | Pkg Size | Price |
|----------------|---|----------|----------|
| EL3310EB | PCR Check/IT Starter Kit Includes: PCRCheck/IT Mini gels with EtBr, 3 Catamaran S-12, 1 Forceps, 1 40X TAE Running Buffer, 50 mL 5X Loading Buffer, 1 mL | Kit | \$105.00 |
| EL3300EB | PCR Check/IT Mini with EtBr, 8 & 12 wells/gel | 10 gels | 170.00 |
| EL3301EB | PCR Check/IT Wide Mini S-2x13 with EtBr, 13 wells/gel | 12 gels | 226.70 |
| EL3302EB | PCR Check/IT Wide Mini S-2x25 with EtBr, 25 wells/gel | 12 gels | 226.70 |
| EL3303EB | PCR Check/IT Wide Mini S-4x13 with EtBr, 13 wells/gel | 24 gels | 226.70 |
| EL3304EB | PCR Check/IT Wide Mini S-4x25 with EtBr, 25 wells/gel | 24 gels | 226.70 |
| EL3305EB | PCR Check/IT Wide Mini S-2x104 with EtBr 104 wells/gel | 12 gels | 226.70 |
| EL3306EB | PCR Check/IT Wide Mini S-2x104L with EtBr, 104 wells/gel | 12 gels | 226.70 |
| EL3307EB | PCR Check/IT Wide Mini S-2x200 with EtBr, 200 wells/gel | 12 gels | 226.70 |

Gels are also available in all formats without EtBr.

* Each box contains: 1.0 mL sample loading buffer, Quality Control Certificate, short instructions, and a nylon string for removal of the plastic backing.

ELCHROM Clearose[®] RNA

Gels for RNA and mRNA analysis

Clearose[®] RNA gels are ideal for RNA and mRNA (500 to 10000 nt) analysis, Northern blotting and the analysis of transcripts. These gels have excellent resolution, are RNase free and can be used with non-toxic running buffer. Clearose[®] RNA gels have 500-10000 bp.

| Product Number | Description* | Pkg Size | Price |
|----------------|---|----------|----------|
| EL3603 | Clearose [®] RNA Starter Kit Includes: Clearose [®] RNA Mini gels, 5 Catamaran S-8, 1 Forceps, 1 40x TAE Running buffer, 50 mL 5x Loading buffer, 1 mL | Kit | \$148.20 |
| EL3602 | Clearose [®] RNA Mini 8 & 12 wells/gel | 10 gels | 149.10 |
| EL3626 | Clearose [®] RNA Wide Mini S-2x13, 13 wells/gel | 12 gels | 214.00 |

* Each box contains: Quality Control Certificate, short instructions, and a nylon string for removal of the plastic backing.

Elchrom Scientific Origins

Versatility

- One system for different applications (microsatellite based genotyping, point mutation detection, high throughput quality control and many others)

High Throughput

- Up to 400 samples can be run simultaneously

No «smiling»

- Heat is evenly removed from the gel surface

Improved linearity of the electric field and laminar buffer flow

Integrated Heating/Cooling System

- No need for external water bath and temperature probe

Integrated pump for buffer circulation

- Constant temperature and constant pH even in the vicinity of the electrodes



Elchrom Scientific
Excellence in Electrophoresis



Isogen Life Science Proxima Imaging Systems

- Unique, patented, image-positioning tool allows fast and easy gel handling and alignment, just place your sample anywhere on the transilluminator and close the compartment cover
- Slant-correction ensures optimal sample orientation for 'straight' visualization

True multi-fluorophore capabilities

- Ideally suited for genomics and proteomics applications

Small footprint saves precious bench space

- Ergonomic design for easy sample loading

Fully upgradeable

- Designed to provide you with an optimal solution as your research needs develop and change

Biosensing Instrument High Performance and Versatile Surface Plasmon Resonance Instruments

- High quality Surface Plasmon Resonance (SPR) instruments
- A sensitive, label-free technology to detect both large and small analytes, and to study slow and fast kinetics
- Wide dynamic range and high sensitivity for both large and small molecules (<100 Daltons)
- Broad response time for slow (hours) and fast (< ms) kinetic processes

Applications Include:

- Gene assays (e.g. single nucleotide polymorphism) and DNA/DNA interactions
- Immunosensing (ligand-receptor, antibody-antigen, etc.)
- DNA/protein, protein/protein and protein/drug interactions
- Protein unfolding and conformational changes
- Drug discovery and development



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Semba Biosciences — Simulated Moving Bed Chromatography Systems for Molecular Separations

The Semba Octave™ Chromatography System is a fully automated SMBC (Simulated Moving Bed Chromatography) system for research and preparative scale molecular purification. This system enables:

- High-throughput production of proteins, antibodies, enantiomeric compounds, carbohydrates, etc.
- Continuous purification from crude cell lysates or racemic mixtures
- Scalable from milligrams to tons of purified product
- Unparalleled efficiency in column usage and lower solvent consumption
- Simple system set-up and parameter optimization



LabNet MultiGene™ Gradient Thermal Cycler

Precision Thermal Control

- Rapid heating and cooling
- Achieved by six Peltier modules

Fully Adjustable Heated Lid

- Provides the optimum pressure for use with different height tubes as well as plates

Easy Programming

- Simple on-screen instructions guide the user through the programming process

Gradient Capability

- Can be programmed to operate with uniform temperature across the block for consistent results, or with a temperature gradient for protocol optimization



LabNet Enduro Gel XL Complete Electrophoresis System

Labnet's Enduro Gel XL includes all components necessary to cast and run horizontal gels.

- **Power:** 150v/400ma
- **Control:** Set voltage, amperage and time
- **Flexibility:** Runs 6 x 6cm to 12.5 x 12cm gels
- **Throughput:** Up to 112 samples at once
- **Convenience:** Casting set and combs included
- Features a detachable power supply

If you are interested, please contact Mike in our Technical Support Department for details.



Lynking Quality Products and Support to your Research
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Labnet

Centrifuges and Mixers



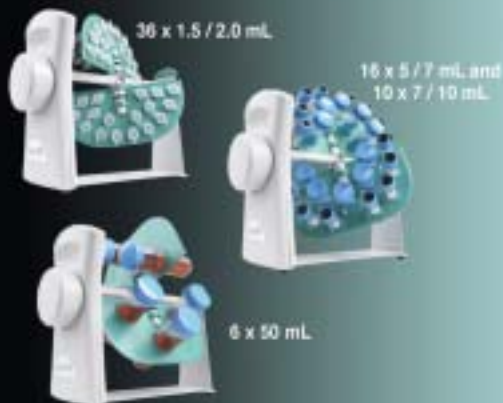
Spectrafuge™ Mini Centrifuge

- Compact, personal sized centrifuge
- Perfect for microfiltration and quick spin downs from the walls and caps of microcentrifuge tubes
- Supplied with rotors and adapters to accommodate 1.5 mL, 0.5 mL and 0.4mL tubes as well as 0.2 mL strips and individual tubes



MPS 1000™ Mini Plate Spinner

- Quickly spin down droplets and condensation
- Use before and after thermal cycling to improve PCR yield
- Accepts skirted, non-skirted and all standard PCR plates
- Less than 1/4 the size of most plate centrifuges



Revolver 360° Sample Mixers

- 360° rotation
- 0-90° mixing angle
- Interchangeable rotisserie options for all common lab tubes
- Independently adjustable rotisseries
- Cold room and incubator compatible

*If you are interested, please contact Mike in our
Technical Support Department for details.*

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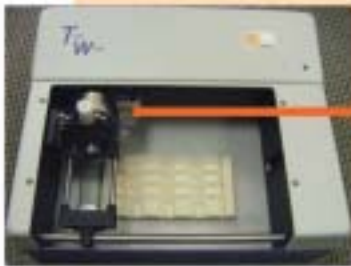
MICRONIC

Traceable Sampling Solutions

Traceable Sampling Solutions

Micronic TubeWriter

- Automated direct printing on any tube with any ink
- No ink cartridges - insert your labeling pen directly into the printer
- Prints on the sides or caps of tubes
- Easy-to-read sample identification
- Simple Excel-based interface
- Automated printing on:
 - Cryogenic Vials
 - Plates
 - Slides
 - Microcentrifuge Tubes
 - Screw Cap Tubes
 - Conical Tubes
 - Snap Cap Tubes
 - Cluster Tubes
 - ...ANY tube!



Micronic Starter Packs

- Convenient, cost effective way to set up a traceable sample storage system
- Everything needed to store, locate and handle your precious samples
- Includes reader, software, caps, racks, 2D coded tubes, sealer and decappers
- Provides a quick and easy introduction to using coded sample tubes



For further information, please contact the MJS Biolynx Technical Support Department

If you are interested, please contact Mike in our Technical Support Department for details.

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SAMPLE STORAGE SYSTEM



Micronic Starter Pack



Micronic SampleScan 96 Three-Rack Barcode Reader



Micronic SampleScan Plus Reader



Micronic Hand Held Wireless Scanner with USB Connection

MICRONIC STARTER PACKS

- Convenient, cost effective way to set up a traceable sample storage system
- Everything needed to store, locate and handle your precious samples
- Includes reader, software, caps, racks, 2D coded tubes, sealer and decappers
- Provides a quick and easy introduction to using coded sample tubes

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|------------|
| MSMP20104 | 1.40mL Tracker 2D Barcoded Tubes U-bottom Starter Pack with SampleScan 96 Includes: 1.40mL Tracker 2D Barcoded Tubes U-Bottom in Robo Rack-96 (20 racks) Pierceable TPE Capcluster-96 Natural (2 x 10 capclusters) Manual Decapper-1 Manual Decapper-8 Manual Capmatsealer Tracker Table Model Three Rack Scanner | Kit | \$6,055.00 |
| MSMP20204 | 1.14mL Tracker 2D Barcoded Tubes U-bottom Starter Pack with Hand Held Scanner Includes: 1.14mL Tracker 2D Barcoded Tubes U-Bottom in 1D barcoded RoBo Rack-96 (20 racks) Pierceable TPE Capcluster-96 Natural (2 x 10 capclusters) Manual Decapper-1 Manual Decapper-8 Manual Capmatsealer Hand Held Wireless 1D (2D barcode reader with USB connection) | Kit | 4,385.60 |
| MSMP20304 | 1.40mL Tracker 2D Barcoded Tubes U-bottom Starter Pack with SampleScan Mini Includes: 1.40mL Tracker 2D Barcoded Tubes U-bottom in 1D barcoded Robo Rack-96 (20 racks) Pierceable TPE Capcluster-96 Natural (2 x 10 capclusters) Manual Decapper-1 Manual Decapper-8 Manual Capmatsealer SampleScan Mini Barcode Reader | Kit | 7,947.40 |

Starter Packs are also available with Screw Cap Tubes and with 0.5 and 0.75 mL Tubes. Please contact our Technical Support Department for more information.

MICRONIC BARCODE READER

- Reads all 96 tubes in under 20 seconds
- Easy to install
- Versatile software generates a variety of file formats

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|------------|
| MSMP85115 | SampleScan 96 Three-Rack Barcode Reader | Each | \$3,827.50 |
| MSMP85116 | SampleScan 96 Single-Rack Barcode Reader | Each | 3,653.20 |

MICRONIC SINGLE TUBE READER

- Provides rapid, single tube analysis
- Reads tube in under 0.5 seconds
- Data can be exported to any program
- Robust and reliable
- In-line version available for integration within automated systems

| Product Number | Description | Pkg Size | Price |
|----------------|------------------------------------|----------|------------|
| MSMP85220 | SampleScan Plus Single Tube Reader | Each | \$2,898.20 |

MICRONIC HAND HELD WIRELESS SCANNER WITH USB CONNECTION

- Bluetooth wireless connectivity, 33 foot working range
- Versatile - Reads 1D linear, PDF417 and 2D data matrix bar codes
- Battery - Long lasting, high capacity lithium ion battery provides 57,000 scans per charge
- Interfaces - Keyboard wedge, USB, TTL level RS-232, wand emulation, TTL level serial wedge, and IBM 46XX
- Light Weight - Only 9 ounces

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|------------|
| MSMP85120 | Wireless Scanner with USB Connection | Each | \$2,085.10 |

MICRONIC PREMIUM TUBES

- Clean room manufactured from medical grade polypropylene – solvent resistant, contaminant-free
- Ideal for use with robotic equipment
- Available uncoded, with alphanumeric code or 2D coding system
- Codes enable sample integrity and traceability
- **TrackerDM™ features:**
 - Industry standard** – 10MIL open code format
 - Error correction** – partial damage of code will not effect readability
 - Human readable code** – allows tube identification without using a reader
 - Versatile** – ready integration with LIMS and databases, compatible with Matrix systems
- Tubes available in **polycarbonate (PC)**, **polypropylene (PP)**, **RoBo** or **LoBo** racks, all conforming to the SBS standard footprint
 - Polypropylene Rack - open bottom allows quick freezing and thawing
 - can be manipulated by robotic equipment
 - RoBo Rack - enclosed wall design allows grippers to access rack from any height
 - Sure-Shot™ well design ensures tubes are positively guided into the correct well location, preventing stoppages
 - LoBo Rack - low profile
- Higher carbon content of **conductive** racks causes static electricity to be discharged so dust is not attracted to the rack



Micronic
TrackerDM™ Data Matrix Coded Tubes

| Product Number | Description | | Pkg Size | Price |
|----------------------------------|-------------------|---|---------------|------------|
| TrackerDM™ 2D CODED TUBES | | | | |
| MSMP52325 | 0.5 mL, V bottom | LoBo 96 place PP rack, Screw Cap Tubes | 4 pkgs of 10 | \$2,185.70 |
| MSMP52325Z6 | 0.5 mL, V bottom | LoBo 96 place PP rack, Screw Cap Tubes, precapped | 4 pkgs of 10 | 2,406.80 |
| MSMP52027 | 0.75 mL, V bottom | Bulk | 5 bags of 960 | 1,105.70 |
| MSMP52020 | 0.75 mL, V bottom | LoBo 96 place PP rack | 4 pkgs of 10 | 2,185.70 |
| MSMP52310 | 0.75 mL, V bottom | Black Tubes in LoBo 96 place rack | 4 pkgs of 10 | 2,406.80 |
| MSMP52607 | 1.4 mL, U bottom | Bulk | 4 bags of 960 | 1,105.70 |
| MSMP52006 | 1.4 mL, U bottom | 96 place PP rack | 4 pkgs of 10 | 2,185.70 |
| MSMP52011 | 1.4 mL, U bottom | RoBo 96 place PP rack | 4 pkgs of 10 | 2,185.70 |
| MSMP52019 | 1.4 mL, U bottom | 96 place deep well refill tube holder | 5 pkgs of 10 | 1,701.00 |
| MSMP52309 | 1.4 mL, U bottom | Black Tubes in RoBo 96 place rack | 4 pkgs of 10 | 2,406.80 |
| MSMP52330Z6 | 1.4 mL, V bottom | RoBo 96 place PP rack, Screw Cap Tubes, precapped | 2 pkgs of 10 | 954.00 |
| MSMP52330 | 1.4 mL, V bottom | RoBo 96 place PP rack, Screw Cap Tubes | 2 pkgs of 10 | 1,092.80 |

Need Assistance?

*Please contact Mike in our
Technical Support Department at
1-888-593-5969 or tech@biolynx.ca*

SAMPLE STORAGE SYSTEM



Micronic RoBo Rack with Glass Tubes



Micronic Pneumatic Capper



Micronic Safesealer

MICRONIC PREMIUM TUBES

| Product Number | Description | | Pkg Size | Price |
|---------------------------------|-------------------|--|--------------|------------|
| ALPHANUMERIC CODED TUBES | | | | |
| MSMP42049 | 0.05 mL, V bottom | LoBo 96 place PP rack, Screw Cap Tubes | 4 pkgs of 10 | \$1,188.00 |
| MSMP42013 | 0.65 mL, V bottom | LoBo 96 place PP rack | 4 pkgs of 10 | 1,188.00 |
| MSMP226RP | 1.4 mL, U bottom | 96 place deep well refill tube holder | 5 pkgs of 10 | 465.40 |
| MSMP22501 | 1.4 mL, U bottom | 96 place PC rack | 4 pkgs of 10 | 1,037.60 |
| MSMP42001 | 1.4 mL, U bottom | 96 place PP rack | 4 pkgs of 10 | Inquire |
| MSMP42003 | 1.4 mL, U bottom | RoBo 96 place PP rack | 4 pkgs of 10 | 1,188.00 |
| MSMP42064 | 1.4 mL, V bottom | 96 place refill, Screw Cap Tubes | 2 pkgs of 10 | 186.40 |
| MSMP42063 | 1.4 mL, V bottom | RoBo 96 place PP rack, Screw Cap Tubes | 2 pkgs of 10 | 594.00 |
| MSMP42063Z6 | 1.4 mL, V bottom | Robo 96 place, PP rack, Screw Cap Tubes, precapped | 2 pkgs of 10 | 693.00 |

NON-CODED TUBES

| | | | | |
|-------------|---------------------|---|---------------|----------|
| MSMP32040 | 0.05 mL, V bottom | Bulk, Screw Cap Tubes | 5 bags of 960 | \$243.00 |
| MSMP32041 | 0.05 mL, V bottom | LoBo 96 place PP rack, Screw Cap Tubes | 4 pkgs of 10 | 1,049.10 |
| MSMP32041Z6 | 0.05 mL, V bottom | LoBo 96 place PP rack, Screw Cap Tubes, precapped | 4 pkgs of 10 | 632.60 |
| MSMP32017 | 0.75 mL, V bottom | Bulk | 5 bags of 960 | 243.00 |
| MSMP32008 | 0.75 mL, V bottom | LoBo 96 place PP rack | 4 pkgs of 10 | 1,049.10 |
| MSMP226RN | 1.4 mL, U bottom | 96 place deep well refill tube holder | 5 pkgs of 10 | 369.00 |
| MSMP22502 | 1.4 mL, U bottom | 96 place PC rack | 4 pkgs of 10 | 961.70 |
| MSMP32022 | 1.4 mL, U bottom | Bulk | 4 bags of 960 | 195.40 |
| MSMP42000 | 1.4 mL, U bottom | 96 place PP rack | 4 pkgs of 10 | Inquire |
| MSMP42002 | 1.4 mL, U bottom | RoBo 96 place PP rack | 4 pkgs of 10 | 1,049.10 |
| MSMP32057 | 1.4 mL, U bottom | RoBo 96 place PP rack, Black Tubes | 4 pkgs of 10 | 1,152.00 |
| MSMP32062 | 1.4 mL, V bottom | Bulk, Screw Cap Tubes | 4 bags of 960 | 195.40 |
| MSMP32042 | 1.4 mL, V bottom | RoBo 96 place PP rack, Screw Cap Tubes | 2 pkgs of 10 | 524.60 |
| MSMP32042Z6 | 1.4 mL, V bottom | RoBo 96 place PP rack, Screw Cap Tubes, precapped | 2 pkgs of 10 | 657.00 |
| MSMP32003 | 2.5 mL, U bottom | 96 place PP rack | 4 pkgs of 6 | Inquire |
| MSMP23805 | 7.5 mL, flat bottom | PE square tube with cap, non-sterile | 5 pkgs of 100 | 135.00 |

EMPTY RACKS

| | | | |
|-----------|--|--------------|----------|
| MSMP22504 | 96 place empty PC rack with cover for 1.4 mL tubes | 4 pkgs of 10 | \$714.80 |
| MSMP51000 | 96 place empty PP rack with cover for 1.4 mL tubes | 4 pkgs of 10 | Inquire |
| MSMP51001 | RoBo 96 place PP rack with cover for 1.4 mL tubes | 4 pkgs of 10 | 668.60 |
| MSMP51004 | LoBo low profile PP Rack-96 with cover for 0.65 mL tubes | 4 pkgs of 10 | 668.60 |

ACCESSORIES

| | | | |
|-----------|---|------|---------|
| MSMP34000 | Extendable holder for vertical storage of racks in freezers | Each | \$69.40 |
|-----------|---|------|---------|

MICRONIC CAP SEALERS

- Manual Capmatsealer caps Micronic tubes with Micronic TPE/EVA Caps, Capclusters, Capbands, and Capmats
- Electric Capper caps both full and partially full racks of tubes and is compatible with the Micronic capping range, tubes and racks
- Robus, durable bench-top device

| Product Number | Description | Pkg Size | Price |
|----------------|----------------------|----------|------------|
| MSMP55006 | Manual Capmat Sealer | Each | \$1,411.70 |
| MSMP35015 | Electric Capper | Each | 4,822.80 |

MICRONIC CAPS

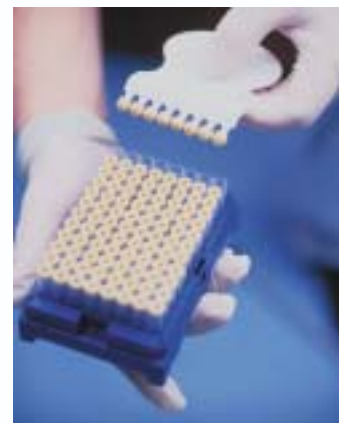
- Use of the new Capcluster permits all 96 caps to be applied simultaneously
- The new hydrophobic Capcluster is made of 2 components, the caps and a removable retaining film
- Each hydrophobic cap is multi-pierceable (up to 12 times) without a loss in seal integrity
- TPE caps have a high chemical resistance and a temperature range of -80°C to 80°C



Micronic CapCluster with Removable Retaining Film and Caps



Micronic Pierceable 96 Place CapCluster



Micronic Eight Cap Decapper



Micronic Automated Decapper

| Product Number | Description | Pkg* Size | Price |
|----------------|-------------|-----------|-------|
|----------------|-------------|-----------|-------|

CAPCLUSTER

| | | | |
|-----------|---|-----|------------|
| MSMP53004 | Blue, Pierceable TPE | 240 | \$1,603.30 |
| MSMP53005 | Green, Pierceable TPE | 240 | 1,603.30 |
| MSMP53006 | Grey, Pierceable TPE | 240 | 1,603.30 |
| MSMP53007 | Pink, Pierceable TPE | 240 | 1,603.30 |
| MSMP53008 | Brown, Pierceable TPE | 240 | 1,603.30 |
| MSMP53009 | Black, Pierceable TPE | 240 | 1,603.30 |
| MSMP53010 | Yellow, Pierceable TPE | 240 | 1,603.80 |
| MSMP53001 | Natural, Pierceable TPE | 240 | 1,603.30 |
| MSMP53036 | White, Pierceable TPE | 240 | 1,668.80 |
| MSMP53038 | Purple, Pierceable TEPE | 240 | 1,668.80 |
| MSMP53026 | Natural, Split Cap, Pierceable TPE | 240 | 1,734.40 |
| MSMP53037 | Multicolour Pack (Natural, Blue, Green, Grey, Pink, Brown, Black and Yellow) | 240 | 1,661.10 |

CAPMAT

| | | | |
|-----------|-------------------------|-----|------------|
| MSMP53011 | Blue, Pierceable TPE | 240 | \$1,342.30 |
| MSMP53012 | Green, Pierceable TPE | 240 | 1,342.30 |
| MSMP53013 | Grey, Pierceable TPE | 240 | 1,342.30 |
| MSMP53014 | Pink, Pierceable TPE | 240 | 1,342.30 |
| MSMP53015 | Brown, Pierceable TPE | 240 | 1,342.30 |
| MSMP53016 | Black, Pierceable TPE | 240 | 1,342.30 |
| MSMP53017 | Yellow, Pierceable TPE | 240 | 1,342.30 |
| MSMP53000 | Natural, Pierceable TPE | 240 | 1,342.30 |
| MSMP33000 | EVA | 240 | 817.70 |

CAPBAND - 8

| | | | |
|-----------|------------------------------------|----------------|------------|
| MSMP53018 | Blue, Pierceable TPE | 240 | \$1,571.10 |
| MSMP53019 | Green, Pierceable TPE | 240 | 1,571.10 |
| MSMP53020 | Grey, Pierceable TPE | 240 | 1,571.10 |
| MSMP53021 | Pink, Pierceable TPE | 240 | 1,571.10 |
| MSMP53022 | Brown, Pierceable TPE | 240 | 1,571.10 |
| MSMP53023 | Black, Pierceable TPE | 240 | 1,571.10 |
| MSMP53024 | Yellow, Pierceable TPE | 240 | 1,571.10 |
| MSMP53002 | Natural, Pierceable TPE | 240 | 1,571.10 |
| MSMP53027 | Natural, Split Cap, Pierceable TPE | 240 | 1,734.40 |
| MSMP227B1 | EVA | 24 pkgs of 120 | 948.80 |
| MSMP82605 | EVA, Break Apart | 4 bags of 1000 | 1,843.70 |

SINGLE CAPS

| | | | |
|-----------|----------------------|----------------|------------|
| MSMP53003 | Pierceable TPE, Bulk | 24 bags of 960 | \$1,145.60 |
|-----------|----------------------|----------------|------------|

SCREW CAPS

| | | | |
|-----------|-------------------|---------------|------------|
| MSMP53101 | Screw Caps, White | 5 bags of 960 | \$1,542.80 |
| MSMP53102 | Screw Caps, Red | 5 bags of 960 | 1,542.80 |
| MSMP53103 | Screw Caps, Blue | 5 bags of 960 | 1,542.80 |
| MSMP53105 | Screw Caps, Green | 5 bags of 960 | 1,542.80 |

* Smaller package sizes may be available - please inquire.

MICRONIC DECAPPERS™

- Hand-held decappers allow the removal of caps in a hands-free method
- Increases user safety as direct contact with caps is avoided
- Automated Decapper™ system simultaneously removes all 96 caps in under 10 seconds
- Compatible with all Micronic racks and tubes

| Product Number | Description | Pkg Size | Price |
|----------------|-------------|----------|-------|
|----------------|-------------|----------|-------|

| | | | |
|-----------|-------------------------------|------|-----------|
| MSMP54000 | Hand-held Single Cap Decapper | 10 | \$70.70 |
| MSMP54001 | Hand-held Eight Cap Decapper | 10 | 83.60 |
| MSMP35000 | Automated Decapper™ | Each | 45,693.00 |
| MSMP54004 | Screw Cap Remover | 10 | 29.60 |



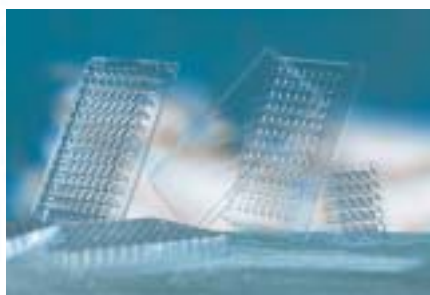
Greiner 96-Well Clear Polystyrene Microplates



Greiner 384-Well Black and White Polystyrene Microplates



Greiner Microplates



Greiner PCR Plates

GREINER MICROPLATES

- A wide variety of microplates available in virgin polystyrene or polypropylene resin with standard dimensions
- Numerous formats are available including clear, white and black plates with flat, round (U), conical (V) or C bottoms.
- RNase and DNase free, non-pyrogenic and free of DNA-polymerase inhibitors
- Custom bar-codes can be applied according to your specifications

| Product Number | Colour | Bottom Style | Other | Pkg Size | Price |
|----------------|--------|--------------|-------|----------|-------|
|----------------|--------|--------------|-------|----------|-------|

96-WELL POLYSTYRENE

| | | | | | |
|----------|-------|---------|------------------------------|-----|---------|
| GR655101 | Clear | Flat | Chimney Style | 100 | \$71.00 |
| GR655180 | Clear | Flat | TC Treated, Sterile with Lid | 60 | 191.80 |
| GR650101 | Clear | Round | - | 100 | 66.90 |
| GR651101 | Clear | Conical | - | 100 | 66.90 |
| GR655075 | White | Flat | Chimney Style | 40 | 64.80 |
| GR655083 | White | Flat | TC Treated, Sterile with Lid | 32 | 87.70 |
| GR655076 | Black | Flat | Chimney Style | 40 | 64.80 |
| GR655086 | Black | Flat | TC Treated, Sterile with Lid | 32 | 84.30 |

96-WELL POLYPROPYLENE

| | | | | | |
|----------|-------|---------|---------------|-----|----------|
| GR655201 | Clear | Flat | Chimney Style | 100 | \$167.10 |
| GR650201 | Clear | Round | Chimney Style | 100 | 167.10 |
| GR651201 | Clear | Conical | Chimney Style | 100 | 167.10 |
| GR655209 | Black | Flat | Chimney Style | 100 | 183.80 |
| GR650209 | Black | Round | Chimney Style | 100 | 173.60 |
| GR651209 | Black | Conical | Chimney Style | 100 | 184.90 |

384-WELL POLYSTYRENE

| | | | | | |
|----------|-------|------|------------------------------|-----|----------|
| GR781101 | Clear | Flat | - | 100 | \$311.80 |
| GR781182 | Clear | Flat | TC Treated, Sterile with Lid | 32 | 125.30 |
| GR781075 | White | Flat | - | 40 | 169.10 |
| GR781080 | White | Flat | TC Treated, Sterile with Lid | 32 | 178.20 |
| GR781076 | Black | Flat | - | 40 | 160.10 |
| GR781086 | Black | Flat | TC Treated, Sterile with Lid | 32 | 178.20 |

384-WELL POLYPROPYLENE

| | | | | | |
|----------|-------|---------|---|-----|----------|
| GR781201 | Clear | Flat | - | 100 | \$273.90 |
| GR781280 | Clear | Conical | - | 100 | 284.40 |
| GR781209 | Black | Flat | - | 100 | 303.30 |

1536-WELL POLYSTYRENE

| | | | | | |
|----------|-------|------|--------|----|----------|
| GR783101 | Clear | Flat | LoBase | 60 | \$982.20 |
| GR783075 | White | Flat | LoBase | 60 | 1,151.50 |
| GR783076 | Black | Flat | LoBase | 60 | 1,151.50 |

GREINER CLEAR POLYPROPYLENE PCR PLATES

- DNase RNase free, non-pyrogenic
- Compatible with a wide variety of sealing options
- Greiner bar coding option available

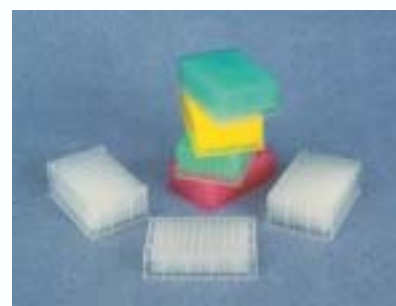
| Product Number | Description | Skirt Format | Well Volume (µL) | Pkg Size | Price |
|----------------|-----------------|--------------|------------------|----------|----------|
| GR652201 | 96-well, clear | None | 200 | 40 | \$127.50 |
| GR652270 | 96-well, clear | Full | 250 | 40 | 141.20 |
| GR652280 | 96-well, clear | Half | 250 | 40 | 138.50 |
| GR652290 | 96-well, clear | Half | 200 | 40 | 138.50 |
| GR785201 | 384-well, clear | Full | 40 | 60 | 243.60 |
| GR785290 | 384-well, clear | Full | 25 | 60 | 243.60 |
| GR785207 | 384-well, white | Full | 25 | 60 | 287.00 |
| GR785209 | 384-well, black | Full | 25 | 60 | 287.00 |

GREINER Masterblock® DEEP WELL MICROPLATES

- Made of high quality, virgin polypropylene in a standard microplate footprint
- Offers superior chemical and temperature resistance
- Also available in a variety of colours and in sterile formats

| Product Number | Colour | Bottom Style | Sterile | Well Volume | Pkg Size | Price |
|------------------------------|---------|--------------|---------|-------------|----------|----------|
| 96-WELL POLYPROPYLENE | | | | | | |
| GR786201 | Natural | Conical | No | 0.75 mL | 80 | \$271.70 |
| GR786261 | Natural | Conical | Yes | 0.5 mL | 80 | 301.20 |
| GR780201 | Natural | Round | No | 1.2 mL | 50 | 196.40 |
| GR780205 | Green* | Round | No | 1.2 mL | 50 | 196.40 |
| GR780210 | Natural | Round | No | 1.2 mL | 50 | 181.70 |
| GR780261 | Natural | Round | Yes | 1.2 mL | 50 | 206.00 |
| GR780270 | Natural | Conical | No | 2.4 mL | 50 | 187.50 |
| GR780271 | Natural | Conical | Yes | 2.4 mL | 50 | 182.00 |
| GR780275 | Green* | Conical | Yes | 2.4 mL | 50 | 189.90 |
| GR780285 | Natural | Conical | No | 2.4 mL | 50 | 184.60 |

* Red, blue and yellow also available.



Greiner Masterblock® Deep Well Microplates

SEAHORSE LABWARE STORAGE PLATES AND RESERVOIRS

- Molded in Natural Polypropylene — Chemical and heat resistant
- Industry Standard Dimensions — Robotic friendly
- Bar-Coding and Irradiation Available Upon Request — Minimum order
- Many Options Available — Please contact Mike in Technical Support for a full listing

| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| IMS30003 | 48 well, rectangle well, storage, 7.5 mL | 30 | \$262.10 |
| IMS30004 | 48 well, rectangle well, storage, 5 mL | 25 | 184.80 |
| IMS30026 | 96 well, square well, 'V' Bottom, storage, 1.1 mL | 25 | 90.60 |
| IMS30033 | 384 well, square well, spherical bottom, storage, 0.035 mL | 60 | 265.70 |
| IMS30014 | 96 well, reservoir | 25 | 163.10 |
| IMS30018 | 96 well, low profile, reservoir | 25 | 138.90 |
| IMS30019 | 12 column, reservoir | 25 | 163.10 |
| IMS30021 | 384 well, reservoir | 25 | 163.10 |
| IMS30022 | 384 well, low profile reservoir | 25 | 138.90 |
| IMS30027 | 384 well, low profile with controls | 25 | 138.90 |
| IMS30035 | 24 column reservoir, low profile | 25 | 138.90 |



Seahorse Labware
96-Well Storage Plate

SEAHORSE LABWARE FILTER BOTTOM PLATES

- Long and Short Drip Directors
- No-Cross Talk — Guaranteed
- Variety of Filtration Media — Please contact Mike in Technical Support for a full listing

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| IMF20011 | 96-well 400mL, Hydrophilic PVDF 0.45mm, Long Drip | 25 | \$404.60 |
| IMF20059 | 96-well 2 mL, UHMW PE 25mm, Long Drip | 25 | 591.80 |
| IMF20062 | 96-well 2 mL, PES 0.45mm, Hydrophilic, Long Drip | 25 | 616.00 |



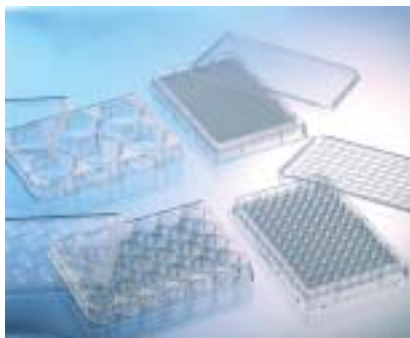
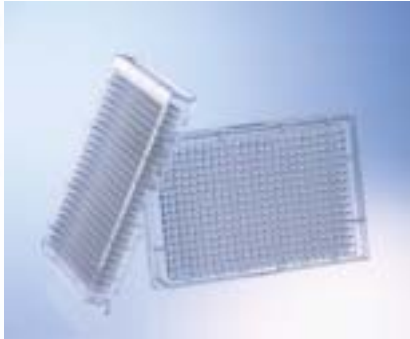
Seahorse Labware Filter Plates

SEAHORSE LABWARE UNIVERSAL LIDS AND PLATES SEALS

| Product Number | Description | Pkg Size | Price |
|----------------|--------------------------------------|----------|----------|
| IMA50009 | Universal lid, polystyrene, Clear | 100 | \$100.20 |
| IMA50014 | Universal lid, polypropylene, Clear | 100 | 113.50 |
| IMP40006 | 96 well, pierceable plate seal, 2 mL | 100 | 335.80 |
| IMP40008 | 96 well, bottom plate seal for 2 mL | 100 | 335.80 |



greiner bio-one



GREINER STREPTAVIDIN COATED PLATES

- Low coating variance
- High biotin binding capacity
- Plates come without lids
- Convenient, ready-to-use
- Low streptavidin leaching
- Pre-blocked with 0.3% BSA

| Product Number | Plate Colour | Bottom Colour | Bottom Style | Chimney Style | Pkg Size | Price |
|----------------|--------------|---------------|--------------|---------------|----------|----------|
| 96-WELL | | | | | | |
| GR655990 | Clear | Clear | C-shaped | Yes | 40 | \$833.80 |
| GR655995 | White | White | C-shaped | Yes | 40 | 833.80 |
| GR655996 | Black | µClear | Flat | Yes | 40 | 898.10 |
| GR655997 | Black | Black | C-shaped | Yes | 40 | 833.80 |

384-WELL

| | | | | | | |
|----------|-------|--------|------|----|----|----------|
| GR781990 | Clear | Clear | Flat | No | 40 | 1,915.70 |
| GR781995 | White | White | Flat | No | 40 | 1,946.30 |
| GR781996 | Black | µClear | Flat | No | 40 | 2,015.40 |
| GR781997 | Black | Black | Flat | No | 40 | 1,946.30 |

GREINER COATED PLATES

- Coated with extra-cellular matrix proteins (ECM) or synthetic polypeptides
- Sterile, RNase, DNase-free and Non Pyrogenic
- Plates come with lids
- Consistent coating for reproducible results
- Convenient, ready-to-use

| Product Number | Coating | Plate Colour | Bottom Colour | Chimney Style | Pkg Size | Price |
|----------------|----------------|--------------|---------------|---------------|----------|----------|
| 6-WELL | | | | | | |
| GR657950 | CollagenType-1 | Clear | Clear | Yes | 50 | \$376.00 |
| GR657930 | Poly L Lysine | Clear | Clear | Yes | 50 | 372.40 |
| GR657940 | Poly D Lysine | Clear | Clear | Yes | 50 | 376.00 |

24-WELL

| | | | | | | |
|----------|----------------|-------|-------|-----|----|--------|
| GR662950 | CollagenType-1 | Clear | Clear | Yes | 50 | 417.00 |
| GR662930 | Poly L Lysine | Clear | Clear | Yes | 50 | 417.00 |
| GR662940 | Poly D Lysine | Clear | Clear | Yes | 50 | 417.00 |

96-WELL

| | | | | | | |
|----------|----------------|-------|-------|-----|----|--------|
| GR655950 | CollagenType-1 | Clear | Clear | Yes | 20 | 201.10 |
| GR655956 | CollagenType-1 | Black | Clear | Yes | 20 | 315.50 |
| GR655930 | Poly L Lysine | Clear | Clear | Yes | 20 | 199.20 |
| GR655940 | Poly D Lysine | Clear | Clear | Yes | 20 | 202.70 |
| GR655944 | Poly D Lysine | White | Clear | Yes | 20 | 315.50 |
| GR655945 | Poly D Lysine | White | White | Yes | 20 | 215.10 |
| GR655946 | Poly D Lysine | Black | Clear | Yes | 20 | 315.50 |
| GR655947 | Poly D Lysine | Black | Black | Yes | 20 | 200.80 |

384-WELL

| | | | | | | |
|----------|----------------|-------|-------|----|----|--------|
| GR781950 | CollagenType-1 | Clear | Clear | No | 20 | 321.70 |
| GR781940 | Poly D Lysine | Clear | Clear | No | 20 | 273.60 |
| GR781944 | Poly D Lysine | White | Clear | No | 50 | 513.40 |
| GR781945 | Poly D Lysine | White | White | No | 20 | 323.10 |
| GR781946 | Poly D Lysine | Black | Clear | No | 20 | 362.90 |
| GR781947 | Poly D Lysine | Black | Black | No | 20 | 323.10 |

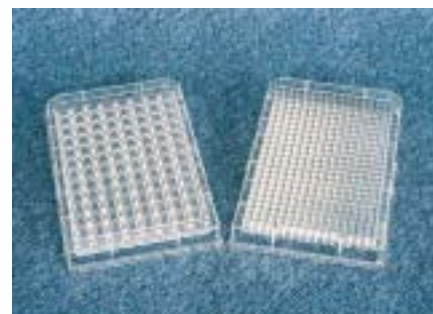
Fibronectin and Laminin coatings are available by request. Please allow additional time for delivery.

Greiner also offers coated Flasks and Petri dishes for your cell culture needs. Please contact our Technical Support Department for more information.

GREINER UVStar™ MICROPLATES

- New and innovative proprietary resin offers an optical window down to 230 nm in a microplate with a standard footprint
- For the measurement of DNA at 260/280 nm
- Cost effective alternative to fragile quartz glass plates

| Product Number | Colour | Bottom Style | Other | Pkg Size | Price |
|-----------------|--------|--------------|---------------|----------|----------|
| 96-WELL | | | | | |
| GR655801 | Clear | Flat | Chimney Style | 40 | \$308.00 |
| 384-WELL | | | | | |
| GR781801 | Clear | Flat | - | 40 | \$630.30 |

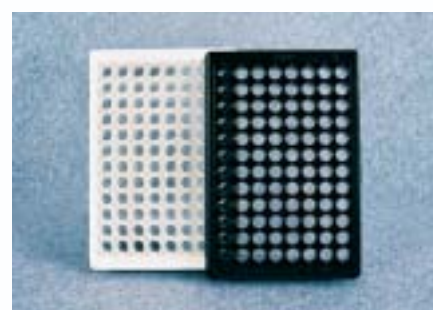


Greiner UVStar™ Microplates

GREINER μClear® 96-WELL THIN BOTTOM MICROPLATES

- Suggested for assays designed for luminescence and fluorescence detection systems when detection or imaging from bottom is desired
- Extended wavelength range down to 340 nm
- Bottoms are made out of an ultra-thin film (50-500 μm)
- RNase-and DNase free, non-pyrogenic
- Industry standard dimensions

| Product Number | Colour | Bottom Style | Other | Pkg Size | Price |
|----------------|--------|--------------|---------------------|----------|----------|
| GR655088 | White | Flat | TC Treated, Sterile | 40 | \$189.50 |
| GR655094 | White | Flat | High Binding | 40 | 201.30 |
| GR655095 | White | Flat | Medium Binding | 40 | 196.60 |
| GR655087 | Black | Flat | TC Treated, Sterile | 40 | 206.00 |
| GR655097 | Black | Flat | High Binding | 40 | 196.40 |
| GR655096 | Black | Flat | Medium Binding | 40 | 192.20 |

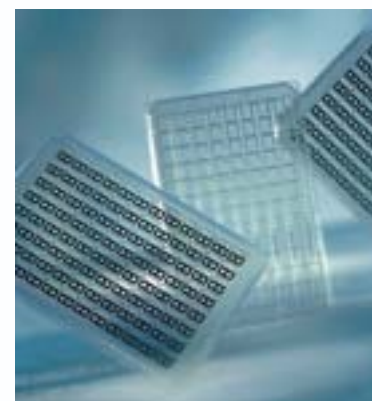


Greiner μClear® 96-Well Thin Bottom Microplates

GREINER POLYSTYRENE PROTEIN CRYSTALLIZATION MICROPLATES

- CrystalQuick™ sitting drop plates feature 96 individual buffer wells with each buffer well adjacent to 1 or 3 crystallization wells. Three crystallization wells enables up to 288 crystallization options per plate
- Sitting drop TC treated plates may enable better liquid dispersion
- The CrystalDrop™ hanging drop lid features 192 indentations ideal for hanging drop vapor diffusion. Light-tight masks to allow improved detection of crystal growth, while grooves around each of the 96 locations are used for air-tight sealing, either with silicone grease or other adhesives. Can be used in conjunction with sitting drop plates for simultaneous hanging and sitting drop vapor diffusion screens.
- The Combo Plate™ is a universal 24-well plate that can be used for both hanging drop and sitting drop applications

| Product Number | Colour | Method | Well Density | Pkg Size | Price |
|----------------|--------|---|--------------|----------|----------|
| GR609101 | Clear | CrystalQuick™ Sitting Drop square round well design | 96/288 | 40 | \$471.40 |
| GR609120 | Clear | CrystalQuick™ Sitting Drop round well design | 96/288 | 40 | 471.40 |
| GR609171 | Clear | CrystalQuick™ Sitting Drop square round well design | 96 | 80 | 870.80 |
| GR662150 | Clear | Combo Plate™ Protein Crystallization Plate with Lid | 24 | 24 | 73.60 |
| GR609150 | Clear | CrystalDrop™ Hanging Drop Lid round well design | 192 | 200 | 1,915.70 |



Greiner Protein Crystallization Microplates



Greiner Combo Plate™



Seahorse Sealers

SEAHORSE LABWARE SEALERS

- Chemically and heat resistant, autoclavable, sealing integrity up to -20°C

| Product Number | Description | Compatibility | Pierceable | Pkg Size | Price |
|----------------|---------------------|----------------------------|------------|----------|----------|
| IMP40002 | 48 Well Seal | 7.5 and 5 mL Storage Plate | Yes | 100 | \$335.80 |
| IMP40003 | 48 Well Seal | 7.5 and 5 mL Storage Plate | No | 100 | 335.80 |
| IMP40004 | 96 Well Seal Strip | 4 mL Storage Plate | Yes | 600 | 468.60 |
| IMP40005 | 96 Well Seal Strip | 4 mL Storage Plate | No | 600 | 468.60 |
| IMP40006 | 96 Well Seal Strip | 2 mL Storage Plate | Yes | 100 | 335.80 |
| IMP40007 | 96 Well Seal Strip | 2 mL Storage Plate | No | 100 | 335.80 |
| IMP40008 | 96 Well Bottom Seal | 2 mL Fritted Filter Plate | No | 100 | 335.80 |
| IMP40009 | 24 Well Seal Strip | 10 mL Storage Plate | Yes | 100 | 335.80 |



Greiner Seals

GREINER MICROPLATE SEALER FAMILY

- Withstand temperatures from -70°C (cryo-storage) to +110°C (thermal cycling)
- Compatible with aqueous solutions and organic solvents
- RNase- and DNase-free, non-pyrogenic

| Product Number | Description | Colour | Pkg Size | Price |
|----------------|--------------------------|--------|----------|---------|
| GR676001 | EASYseal™, Classic | Clear | 100 | \$42.90 |
| GR676070 | VIEWseal™, Advanced | Clear | 100 | 213.70 |
| GR676090 | SILVERseal™, Pierce-able | Silver | 100 | 79.10 |

MICRONIC CAPCLUSTERS

- Capcluster is made of 2 components, the caps and a removable retaining film
- Each hydrophobic cap is multi-pierceable (up to 12 times) without a loss in seal integrity
- TPE caps have a high chemical resistance and a temperature range of -80°C to 80°C



Micronic CapClusters

| Product Number | Description | Colour | Pkg Size | Price |
|----------------|---------------------------|---------|----------|---------|
| MSMP53004P | Pierceable TPE | Blue | 10 | \$70.50 |
| MSMP53005P | Pierceable TPE | Green | 10 | 70.50 |
| MSMP53006P | Pierceable TPE | Grey | 10 | 70.50 |
| MSMP53007P | Pierceable TPE | Pink | 10 | 70.50 |
| MSMP53008P | Pierceable TPE | Brown | 10 | 70.50 |
| MSMP53009P | Pierceable TPE | Black | 10 | 70.50 |
| MSMP53010P | Pierceable TPE | Yellow | 10 | 70.50 |
| MSMP53001P | Pierceable TPE | Natural | 10 | 70.50 |
| MSMP53026P | Split Cap, Pierceable TPE | Natural | 10 | 76.30 |

SUN MicroMat™ AND MicroMat™ CLR MICROPLATE MAT

- Autoclavable, Resealable
- MicroMat™ features a thick layer of Teflon which provides an inert seal
- MicroMat™ CLR is pure silicone giving the mat excellent flexibility
- MicroMat™ CLR compatible with Greiner™, Porvair™, Matrix™, Whatman Polyfiltronics™, NUNC™, Costar®, Simport™, MJ Research™, Dynex™ and Varian™.



Sun MicroMat™

| Product Number | Description | Compatible 96-Well Plate | | | Pkg Size | Price |
|----------------|-------------------------------------|--------------------------|------------------|------------------|----------|-------|
| | | Standard | 1.2 mL Deep Well | 2.4 mL Deep Well | | |
| SB400066 | MicroMat™, round well | • | • | 2 | \$44.10 | |
| SB400067 | MicroMat™, round well | • | • | 10 | 220.70 | |
| SB400071 | MicroMat™ II, round well | • | • | 2 | 44.10 | |
| SB400073 | MicroMat™ II, round well | • | • | 10 | 220.70 | |
| SB300002 | MicroMat™ CLR, round well | • | • | 10 | 103.90 | |
| SB300005 | MicroMat™ CLR, round well, Pre-Slit | • | • | 10 | 129.90 | |
| SB300010 | MicroMat™ CLR, square well | | • | 2 | 32.40 | |
| SB300013 | MicroMat™ CLR, square well Pre-Slit | | • | 10 | 155.80 | |

GREINER BIO-ONE LIGHT PROTECTION TUBES

- Polypropylene tubes display high thermal, mechanical and chemical resistance; they are recommended for the storage of chemical and biological samples
- Conical bottomed tubes.
- Blue screw cap with blue graduation and white writing area
- Light impermeable; suitable for light-sensitive materials and reactions
- Free of detectable DNase, RNase, human DNA, Non-Pyrogenic and non-cytotoxic
- Sterile
- Very good mechanical, thermal and chemical stability

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GR188283 | Centrifuge Tube, 15mL, 17x120mm, Sterile, PPN, BLU Screw Cap, CON (V) BOT, Light Protection Tube, w/Grads, ID Field | 500 | \$132.40 |
| GR188280 | Centrifuge Tube, 15mL, 17x120mm, Sterile, PPN, BLU Screw Cap, CON (V) BOT, Light Protection Tube, w/Grads, ID Field | 1000 | 233.70 |
| GR227280 | Centrifuge Tube, 50mL, 30x115mm, Sterile, PPN, CON (V) BOT, BLU Screw Cap, Light Protection Tube, w/Grads, ID Field | 500 | 179.00 |
| GR227283 | Centrifuge Tube, 50mL, 30x115mm, Sterile, PPN, CON (V) BOT, BLU Screw Cap, Light Protection Tube, w/Grads, ID Field | 300 | 116.20 |



Greiner Light Protection Tubes

GREINER CENTRIFUGE TUBES

- Superior chemical resistance and thermal characteristics
- RNase-free, DNase-free and non-pyrogenic
- Microcentrifuge tubes are manufactured from highly transparent, inert polypropylene resin
- 15 mL and 50 mL centrifuge tubes are made of ClearChoice™ polypropylene which offers excellent optical clarity
- All microcentrifuges are autoclavable
- All 1.5 mL tubes are graduated
- Microcentrifuge tubes can withstand centrifugation forces up to 18 000g
- 15 mL tubes can withstand centrifugation forces up to 3 500g (non-supported rotor) or 113 000g (supported rotor)
- 50 mL tubes can withstand centrifugation forces up to 3 200g (non-supported rotor) or 9 500g (supported rotor)

| Product Number | Dimensions | Description | Cap | Bottom | Pkg Size | Price |
|----------------|------------|-------------|-----|--------|----------|-------|
|----------------|------------|-------------|-----|--------|----------|-------|

MICROCENRIFUGE NON-STERILE

| | | | | | | |
|----------|---|----------------------|--------|---------|-------|---------|
| GR616201 | - | 1.5 mL PP (Natural) | Hinged | Conical | 4000 | \$98.10 |
| GR616273 | - | 1.5 mL PP (Red) | Hinged | Conical | 4000 | 100.30 |
| GR616274 | - | 1.5 mL PP (Blue) | Hinged | Conical | 4000 | 100.30 |
| GR616275 | - | 1.5 mL PP (Green) | Hinged | Conical | 4000 | 100.30 |
| GR616276 | - | 1.5 mL PP (Yellow) | Hinged | Conical | 4000 | 100.30 |
| GR616281 | - | 1.5 mL PP (Assorted) | Hinged | Conical | 4000 | 94.10 |
| GR618201 | - | 1.5 mL PP (Natural) | No cap | Conical | 3000 | 72.70 |
| GR623201 | - | 2.2 mL PP (Natural) | Hinged | Conical | 4000 | 201.30 |
| GR667201 | - | 0.5 mL PP (Natural) | Hinged | Conical | 10000 | 365.60 |
| GR742270 | - | 0.5 mL PP (Blue) | Hinged | Conical | 15000 | 386.30 |

15 mL STERILE

| | | | | | | |
|----------|-------------|------------------|--------------|---------|------|---------|
| GR188261 | 17 x 120 mm | PP tubes, racked | Blue, Screw | Conical | 500 | \$91.40 |
| GR188271 | 17 x 120 mm | PP tubes | Blue, Screw | Conical | 1000 | 158.40 |
| GR188281 | 17 x 120 mm | PP tubes, racked | White, Screw | Conical | 500 | 91.30 |
| GR188285 | 17 x 120 mm | PP tubes | White, Screw | Conical | 700 | 110.30 |

50 mL STERILE

| | | | | | | |
|----------|-------------|------------------|--------------|---------|-----|----------|
| GR210261 | 30 x 115 mm | PP tubes | Blue, Screw | Skirted | 450 | \$116.40 |
| GR210270 | 30 x 115 mm | PP tubes, racked | Blue, Screw | Skirted | 300 | 100.00 |
| GR227261 | 30 x 115 mm | PP tubes | Blue, Screw | Conical | 500 | 118.70 |
| GR227270 | 30 x 115 mm | PP tubes, racked | Blue, Screw | Conical | 300 | 88.30 |
| GR227285 | 30 x 115 mm | PP tubes | White, Screw | Conical | 500 | 118.60 |
| GR227281 | 30 x 115 mm | PP tubes, racked | White, Screw | Conical | 300 | 97.90 |



Greiner Microcentrifuge Tubes



Greiner Centrifuge Tubes

PIPETTE TIPS



0.1 - 10 µL Natural Tip



0.1 - 10 µL Natural, Filter Tip



0.5 - 10 µL Natural Tip



0.5 - 10 µL Natural, Filter Tip



1 - 200 µL Natural Tip



1 - 200 µL Yellow Tip



1 - 200 µL Natural, Bevelled Tip



1 - 200 µL Yellow, Bevelled Tip



1 - 200 µL Yellow, Bevelled, Graduated Tip



1 - 200 µL Natural, Filter Tip



1 - 300 µL Natural, Graduated Tip



101 - 1000 µL Natural, Graduated Tip



101 - 1000 µL Blue, Graduated Tip



101 - 1000 µL Natural, Filter Tip



101 - 1250 µL Natural Tip

USA SCIENTIFIC TipOne® PIPETTE TIPS

- Tips fit most popular pipettes
- Gentle pressure is all that is needed to form a proper seal
- Smooth inner surface reduces sample retention on the tip walls
- Uniform, burr-free tip orifice prevents sample hold up
- RNase, DNase, DNA free and non-pyrogenic
- Available in a variety of convenient packaging options
- Racks are hinged and accept reload wafers
- Autoclavable
- Filter tips feature a hydrophobic filter made of ultra high-density polyethylene
- Filter barrier protects pipettes and samples from contamination
- Filter tips allow complete sample recovery that is free of particulates or additives
- Each hinged rack of filter tips is individually sealed in plastic and has a tear strip for easy opening without sharp instruments
- **Starter systems include:** 1 case of 10 racks and 2 packs of 10 reloads each

| Product Number | Colour | Sterility | Style | Format | Pkg Size | Price |
|----------------------------|---------|-----------|----------|--------------|---------------------------------|---------|
| 0.1 – 10 µL TipOne® | | | | | | |
| US11113000 | Natural | - | - | Bulk | 1000 tips/bag | \$24.00 |
| US11113800 | Natural | - | - | Rack | 96 tips/rack 10 racks/case | 47.30 |
| US11113810 | Natural | Sterile | - | Rack | 96 tips/rack 10 racks/case | 58.60 |
| US11113700 | Natural | - | - | Reload Wafer | 96 tips/wafer 10 wafers/case | 34.50 |
| US11213810 | Natural | Sterile | Filter | Rack | 96 tips/rack 10 racks/case | 81.90 |
| US11113500 | Natural | - | - | - | Starter System | 107.30 |
| 0.5 – 10 µL TipOne® | | | | | | |
| US11114000 | Natural | - | - | Bulk | 1000 tips/bag | \$31.70 |
| US11114800 | Natural | - | - | Rack | 96 tips/rack 10 racks/case | 44.00 |
| US11114810 | Natural | Sterile | - | Rack | 96 tips/rack 10 racks/case | 61.60 |
| US11214810 | Natural | Sterile | Filter | Rack | 96 tips/rack 10 racks/case | 89.00 |
| 1 – 200 µL TipOne® | | | | | | |
| US11110000 | Natural | - | - | Bulk | 1000 tips/bag | \$21.40 |
| US11110800 | Natural | - | - | Rack | 96 tips/rack 10 racks/case | 43.40 |
| US11110810 | Natural | Sterile | - | Rack | 96 tips/rack 10 racks/case | 48.40 |
| US11110700 | Natural | - | - | Reload Wafer | 96 tips/wafer 10 wafers/case | 30.00 |
| US11110500 | Natural | - | - | - | Starter System | 94.20 |
| US11110006 | Yellow | - | - | Bulk | 1000 tips/bag | 20.80 |
| US11110806 | Yellow | - | - | Rack | 96 tips/rack 10 racks/case | 43.60 |
| US11110816 | Yellow | Sterile | - | Rack | 96 tips/rack 10 racks/case | 48.50 |
| US11110706 | Yellow | - | - | Reload Wafer | 96 tips/wafer 10 wafers/case | 29.60 |
| US11110506 | Yellow | - | - | - | Starter System | 100.90 |
| US11111000 | Natural | - | Bevelled | Bulk | 1000 tips/bag | 22.10 |
| US11111800 | Natural | - | Bevelled | Rack | 96 tips/rack 10 racks/case | 44.30 |
| US11111810 | Natural | Sterile | Bevelled | Rack | 96 tips/rack 10 racks/case | 53.30 |
| US11111700 | Natural | - | Bevelled | Reload Wafer | 96 tips/wafer 10 wafers/case | 29.50 |
| US11111500 | Natural | - | Bevelled | - | Starter System | 101.20 |
| US11111006 | Yellow | - | Bevelled | Bulk | 1000 tips/bag | 19.70 |
| US11111806 | Yellow | - | Bevelled | Rack | 96 tips/rack 10 racks/case | 46.90 |

USA SCIENTIFIC TipOne® PIPETTE TIPS

| Product Number | Colour | Sterility | Style | Format | Pkg Size | Price |
|------------------------------------|---------|-----------|------------------------|--------------|---------------------------------|---------|
| 1 – 200 µL TipOne® (cont'd) | | | | | | |
| US11111816 | Yellow | Sterile | Bevelled | Rack | 96 tips/rack 10 racks/case | \$53.60 |
| US11111706 | Yellow | - | Bevelled | Reload Wafer | 96 tips/wafer 10 wafers/case | 31.10 |
| US11111506 | Yellow | - | Bevelled | - | Starter System | 115.80 |
| US11101000 | Natural | - | Bevelled, Graduated | Bulk | 1000 tips/bag | 22.40 |
| US11101800 | Natural | - | Bevelled, Graduated | Rack | 96 tips/rack 10 racks/case | 56.30 |
| US11101810 | Natural | Sterile | Bevelled, Graduated | Rack | 96 tips/rack 10 racks/case | 52.50 |
| US11101700 | Natural | - | Bevelled, Graduated | Reload Wafer | 96 tips/wafer 10 wafers/case | 42.40 |
| US11101500 | Natural | - | Bevelled, Graduated | - | Starter System | 117.70 |
| US11101006 | Yellow | - | Bevelled, Graduated | Bulk | 1000 tips/bag | 22.70 |
| US11101806 | Yellow | - | Bevelled, Graduated | Rack | 96 tips/rack 10 racks/case | 58.20 |
| US11101816 | Yellow | Sterile | Bevelled, Graduated | Rack | 96 tips/rack 10 racks/case | 59.50 |
| US11208810 | Natural | Sterile | Filter, Graduated | Rack | 96 tips/rack 10 racks/case | 88.50 |
| 1 – 300 µL TipOne® | | | | | | |
| US11108000 | Natural | - | Graduated | Bulk | 1000 tips/bag | \$24.60 |
| US11108800 | Natural | - | Graduated | Rack | 96 tips/rack 10 racks/case | 50.10 |
| US11108810 | Natural | Sterile | Graduated | Rack | 96 tips/rack 10 racks/case | 56.80 |
| US11108700 | Natural | - | Graduated | Reload Wafer | 96 tips/wafer 10 wafers/case | 40.10 |
| US11108500 | Natural | - | - | - | Starter System | 117.60 |
| 101 – 1000 µL TipOne® | | | | | | |
| US11112020 | Natural | - | Graduated | Bulk | 1000 tips/bag | \$27.20 |
| US11112820 | Natural | - | Graduated | Rack | 96 tips/rack 10 racks/case | 65.30 |
| US11112830 | Natural | Sterile | Graduated | Rack | 96 tips/rack 10 racks/case | 68.00 |
| US11267810 | Natural | Sterile | Filter | Rack | 96 tips/rack 10 racks/case | 107.80 |
| US11112720 | Natural | - | Graduated | Reload Wafer | 96 tips/wafer 10 wafers/case | 44.70 |
| US11112520 | Natural | - | Graduated | - | Starter System | 139.10 |
| US11112021 | Blue | - | Graduated | Bulk | 1000 tips/bag | 25.50 |
| US11112821 | Blue | - | Graduated | Rack | 96 tips/rack 10 racks/case | 60.10 |
| US11112831 | Blue | Sterile | Graduated | Rack | 96 tips/rack 10 racks/case | 68.90 |
| US11112721 | Blue | - | Graduated | Reload Wafer | 96 tips/wafer 10 wafers/case | 43.60 |
| US11112521 | Blue | - | Graduated | - | Starter System | 132.50 |
| 101 – 1250 µL TipOne® | | | | | | |
| US11122000 | Natural | - | - | Bulk | 1000 tips/bag | \$26.00 |
| US11122800 | Natural | - | - | Rack | 96 tips/rack 10 racks/case | 65.60 |
| US11122810 | Natural | Sterile | - | Rack | 96 tips/rack 10 racks/case | 75.30 |
| US11122700 | Natural | - | - | Reload Wafer | 96 tips/wafer 10 wafers/case | 45.30 |
| US11122500 | Natural | - | - | - | Starter System | 135.30 |

TipOne®



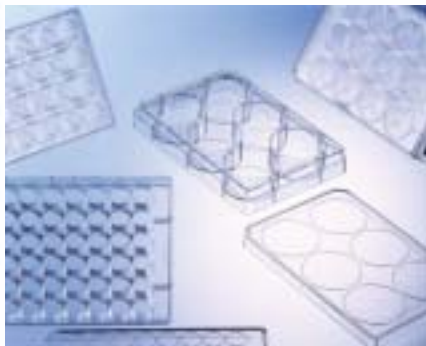
USA Scientific TipOne® Bulk Bag



USA Scientific TipOne® Rack



USA Scientific TipOne® Reload Wafers



Greiner Tissue Culture Multi-Well Plates

GREINER CELLSTAR® TISSUE CULTURE MULTI-WELL PLATES

- Available TC treated for culture of anchorage dependent cells or untreated for suspension cell culture applications
- Composed of optically clear, virgin polystyrene, sterile and non-pyrogenic
- Chimney style wells and low evaporation lids with condensation rings reduce risk of cross contamination

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GR657160 | TC treated, flat bottom, 6-well plate with lid | 100 | \$103.90 |
| GR657185 | Untreated, flat bottom, 6-well plate with lid | 100 | 139.30 |
| GR665102 | Untreated, flat bottom, 12-well plate with lid | 100 | 204.80 |
| GR665180 | TC treated, flat bottom, 12-well plate with lid | 100 | 123.40 |
| GR662102 | Untreated, flat bottom, 24-well plate with lid | 100 | 176.20 |
| GR662160 | TC treated, flat bottom, 24-well plate with lid | 100 | 106.10 |
| GR677102 | Untreated, flat bottom, 48-well plate with lid | 100 | 161.80 |
| GR677180 | TC treated, flat bottom, 48-well plate with lid | 100 | 123.40 |
| GR655185 | Untreated, flat bottom, 96-well plate with lid | 100 | 135.70 |
| GR655180 | TC treated, flat bottom, 96-well plate with lid | 100 | 191.80 |

GREINER ThinCert™ TISSUE CULTURE INSERTS FOR MULTI-WELL PLATES

- Offer improved cell adhesion
- Consist of a sealed PET capillary pore membrane housed in highly transparent polystyrene
- *Self lift* geometry and eccentric wall positioning simplify pipetting
- Notches at the upper edge allow optimized gas exchange
- Individual, sterile packaging, multi-well plates included (*4 plates or **2 plates)



Greiner ThinCert™ in Multiwell Plate

| Product Number | Description | Pore Size and Density | Pkg Size | Price |
|----------------|-----------------------------|--|---------------------|---------|
| GR657641 | 6-well, transparent insert | 0.4 µm, 2 x 10 ⁶ cm ² | 24 single inserts* | \$95.00 |
| GR657610 | 6-well, transparent insert | 1.0 µm, 2 x 10 ⁶ cm ² | 24 single inserts* | 95.00 |
| GR657630 | 6-well, transparent insert | 3.0 µm, 0.6 x 10 ⁶ cm ² | 24 single inserts* | 95.00 |
| GR657631 | 6-well, translucent insert | 3.0 µm, 2 x 10 ⁶ cm ² | 24 single inserts* | 95.00 |
| GR657638 | 6-well, translucent insert | 8.0 µm, 0.15 x 10 ⁶ x cm ² | 24 single inserts* | 95.00 |
| GR665641 | 12-well, transparent insert | 0.4 µm, 2 x 10 ⁶ cm ² | 48 single inserts* | 154.70 |
| GR665610 | 12-well, transparent insert | 1.0 µm, 2 x 10 ⁶ cm ² | 48 single inserts* | 154.70 |
| GR665630 | 12-well, transparent insert | 3.0 µm, 0.6 x 10 ⁶ cm ² | 48 single inserts* | 154.70 |
| GR665631 | 12-well, translucent insert | 3.0 µm, 2 x 10 ⁶ cm ² | 48 single inserts* | 154.70 |
| GR665638 | 12-well, translucent insert | 8.0 µm, 0.15 x 10 ⁶ cm ² | 48 single inserts* | 154.70 |
| GR662640 | 24-well, translucent insert | 0.4 µm, 1 x 10 ⁸ cm ² | 48 single inserts** | 132.10 |
| GR662610 | 24-well, transparent insert | 1.0 µm, 2 x 10 ⁶ cm ² | 48 single inserts** | 132.10 |
| GR662630 | 24-well, transparent insert | 3.0 µm, 0.6 x 10 ⁶ cm ² | 48 single inserts** | 132.10 |
| GR662631 | 24-well, translucent insert | 3.0 µm, 2 x 10 ⁶ cm ² | 48 single inserts** | 132.10 |
| GR662638 | 24-well, translucent insert | 8.0 µm, 0.15 x 10 ⁶ cm ² | 48 single inserts** | 128.20 |

GREINER Bio-One CELLview™ CELL CULTURE DISH WITH GLASS BOTTOM

The specific design with the embedded glass bottom guarantees a single-plane, flat bottom with a consistent working distance, maximal planarity and optimal thermal conductivity in heated platforms avoiding thermal variations.

- Combines the convenience of a standard 35 mm disposable plastic cell culture dish with the optical quality of glass
- Provides superior high-resolution microscopic images of in-vitro cultures
- High transparent achromatic borosilicate glass; hydrolytic class 1 (DIN-ISO 719)
- Maximal spectral transmission; no auto fluorescence; no depolarization of light
- Available with specific surface treatments increasing the attachment of adherent cells
- Broad range of multiple microscopic applications
- Available as one compartment or a subdivided version with four individual compartments



Greiner CELLview™ Culture Dishes

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| GR627861 | CELLview™ cell culture dish, one compartment, sterile | 40 | \$206.20 |
| GR627860 | CELLview™ cell culture dish, one compartment, TC-treated, sterile | 40 | 212.00 |
| GR627 871 | CELLview™ cell culture dish, four compartments, sterile | 40 | 213.60 |
| GR627 870 | CELLview™ cell culture dish, four compartments, TC-treated, sterile | 40 | 217.20 |

GREINER CellStar™ STERILE TISSUE CULTURE FLASKS

- Tissue culture treated to ensure excellent cell adhesion and high yields
- Wide neck design to allow easy access for pipettes and cell scrapers
- Each flask is individually leak-tested, batch coded, graduated and stackable
- Filter caps feature a 0.2 µm hydrophobic membrane - ideal for working with potentially infectious material
- Filter cap flasks provide excellent gas exchange and extended media life by stabilizing the pH

| Product Number | Surface Area | Neck Style | Treatment | Other | Pkg Size | Price |
|----------------|---------------------|------------|----------------|------------------------|----------|----------|
| 50 mL | | | | | | |
| GR690160 | 25 cm ² | Canted | Tissue Culture | — | 200 | \$146.20 |
| GR690175 | 25 cm ² | Canted | Tissue Culture | Filter Cap | 200 | 250.70 |
| 250 mL | | | | | | |
| GR658170 | 75 cm ² | Canted | Tissue Culture | — | 120 | \$156.60 |
| GR658175 | 75 cm ² | Canted | Tissue Culture | Filter Cap | 120 | 238.10 |
| 650 mL | | | | | | |
| GR661160 | 182 cm ² | Canted | Tissue Culture | Hi-Profile | 40 | \$104.40 |
| GR661175 | 182 cm ² | Canted | Tissue Culture | Filter Cap, Hi-Profile | 40 | 142.00 |



Greiner Tissue Culture Flasks

GREINER CellStar™ STERILE SUSPENSION CULTURE FLASKS

- Offer the same features of the CellStar™ Tissue Culture Flasks, but are not tissue culture treated
- Ideal for non-monolayer forming cell lines

| Product Number | Neck Style | Other | Pkg Size | Price |
|----------------|------------|------------------------|----------|----------|
| 50 mL | | | | |
| GR690190 | Canted | — | 200 | \$112.70 |
| GR690195 | Canted | Filter Cap | 200 | 213.10 |
| 250 mL | | | | |
| GR658190 | Canted | — | 120 | \$150.30 |
| GR658195 | Canted | Filter Cap | 120 | 188.00 |
| 650 mL | | | | |
| GR661190 | Canted | Hi-Profile | 40 | \$101.90 |
| GR661195 | Canted | Filter Cap, Hi-Profile | 40 | 137.80 |



Greiner Suspension Culture Flasks

GREINER VENTED CellStar™ STERILE PETRI DISHES

- Tissue culture treated for optimal cell attachment and proliferation - RNase and DNase free, non-pyrogenic
- Virgin polystyrene offers distortion-free optical clarity
- These petri dishes are easily stackable and offer uniform gas exchange and reduced condensation

| Product Number | Dimensions | Treatment | Other | Pkg Size | Price |
|---------------------------|-------------|----------------|---------------|----------|----------|
| 8.7 cm² | | | | | |
| GR627160 | 35 x 10 mm | Tissue Culture | - | 740 | \$221.40 |
| GR627170 | 35 x 10 mm | Tissue Culture | 4 inner rings | 500 | 313.00 |
| 58 cm² | | | | | |
| GR633171 | 94 x 16 mm | Tissue Culture | - | 480 | \$214.40 |
| GR664160 | 100 x 20 mm | Tissue Culture | - | 360 | 210.90 |
| 141 cm² | | | | | |
| GR639160 | 145 x 20 mm | Tissue Culture | - | 120 | \$155.80 |



Greiner Petri Dishes

TISSUE CULTURE LABWARE

GREINER BIO-ONE ADVANCED TC™

An innovative development for the cultivation of fastidious cells

A novel polymer modification changes the surface in such a way to increase cellular primary and long-term adhesion and positively influence cell-dependant features and functions.

Enhanced cell attachment and higher proliferation rates facilitate rapid cell expansion even under restricted growth conditions. Likewise cultivation of sensitive cells is improved as well as transfected cells exhibit higher transgene activity on Advanced TC™ surfaces. Due to the reproducibility of the chemical modification of the plastic material maximal product quality can be guaranteed. Moreover transport and storage at room temperature simplify handling.

Major Applications:

- Cultivation of fastidious and sensitive cells
- Usage of serum-reduced or serum-free media
- Differentiation of semi-adherent cells
- Transfection
- Transduction
- Automation / High-throughput analysis

Features:

- Optimized cell adherence
- *In vivo* like morphology
- Homogenous cell growth
- Increased cell yield
- Higher transgene activity
- Improved assay consistency
- Storage at room temperature
— 2 year shelf life



| Product Number | Description | Pkg Size Bag/Case | Price |
|----------------------------|--|-------------------|----------|
| MICROPLATES | | | |
| GR655980 | 96 Well, F-bottom/chimney well, with lid, transparent, Advanced TC™, sterile | 1/100 | \$525.70 |
| GR655982 | 96 Well, F-bottom/chimney well, with lid, transparent, Advanced TC™, sterile | 10/160 | 757.00 |
| GR655983 | 96 Well, F-bottom/chimney well, with lid, µClear®, white, Advanced TC™, sterile | 8/32 | 283.90 |
| GR655986 | 96 Well, F-bottom/chimney well, with lid, µClear®, black, Advanced TC™, sterile | 8/32 | 315.40 |
| GR675983 | 96 Well, Half Area, with lid, white, Advanced TC™, sterile | 8/32 | 369.00 |
| GR675986 | 96 Well, Half Area, with lid, black, Advanced TC™, sterile | 8/32 | 369.00 |
| GR781983 | 384 Well, F-bottom, µClear®, white, with lid, Advanced TC™, sterile | 8/32 | 416.40 |
| GR781986 | 384 Well, F-bottom, µClear®, black, with lid, Advanced TC™, sterile | 8/32 | 462.60 |
| GR788983 | 384 Well, Small Volume™, µClear®, white, LoBase, with lid, Advanced TC™, sterile | 15/60 | 529.90 |
| GR788986 | 384 Well, Small Volume™, µClear®, black, LoBase, with lid, Advanced TC™, sterile | 15/60 | 529.90 |
| MULTIWELL PLATES | | | |
| GR657960 | 6 Well Plate, with lid, Advanced TC™, sterile | 1/100 | \$325.90 |
| GR665980 | 12 Well Plate, with lid, Advanced TC™, sterile | 1/100 | 331.20 |
| GR662960 | 24 Well Plate, with lid, Advanced TC™, sterile | 1/100 | 399.50 |
| GR677980 | 48 Well Plate, with lid, Advanced TC™, sterile | 1/100 | 397.40 |
| CELL CULTURE DISHES | | | |
| GR627960 | Cell Culture Dish, Ø 35 x 10 mm, Advanced TC™, sterile | 10/740 | \$585.10 |
| GR628960 | Cell Culture Dish, Ø 60 x 15 mm, Advanced TC™, sterile | 10/600 | 545.10 |
| GR633971 | Cell Culture Dish, Ø 94 x 16 mm, Advanced TC™, sterile | 10/480 | 662.40 |
| GR664960 | Cell Culture Dish, Ø 100 x 20 mm, Advanced TC™, sterile | 15/360 | 678.20 |

...More Advanced TC products to come !

SDL MYCOPERM-BLUE & MYCOPERM-RED

A unique permanent mycology stain and mounting fluid with lactophenol cotton blue or acid fuchsin

- Novel stain contains plasticizers which help in making a durable long-life preparation
- Allows you to keep better records by retaining mycology preparations indefinitely



| Product Number | Description | Pkg Size | Price |
|----------------|---------------|----------|---------|
| DL753 | MycoPerm-BLUE | 12 mL | \$54.40 |
| DL752 | MycoPerm-RED | 12 mL | 54.40 |

SDL STAINQUICK TRICHROME

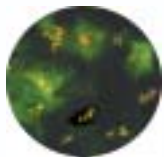
- Rapid staining procedure giving excellent results in as little as 2 minutes
- Maintains a constant temperature of the stain, with stain penetrating organism in less than a minute
- Characteristic morphology of protozoa is readily seen



| Product Number | Description | Pkg Size | Price |
|----------------|--|----------|----------|
| DL795 | StainQuick for Trichrome Staining Kit Includes: StainQuick Unit, 250 mL stain and 250 mL decolorizer | Kit | \$312.70 |

SDL Acri-Fluor™

Rapid detection method for *Mycobacteria*, *Cryptosporidia*, *Isospora*, *Nocardia* and *Cyclospora*



Mycobacteria



Isospora



Nocardia

- Economical, non-antibody fluorescent technique
- Identification of acid fast organisms in tissue and smears
- Rapid and specific
- Standard FITC filter
- Less than 20 minutes to perform
- One kit enables you to do hundreds of assays

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|---------|
| DL384 | Acri-Fluor™ Stain Includes: 125 mL of Acri-Fluor™ 125 mL of Decolorizer | Kit | \$81.60 |

SDL FUNGI-TAPE

An efficient way of performing slide mounts of fungi from primary cultures

The adhesive tape is pliable enough for you to make a tape loop and then sample your culture. This product is fully compatible with MycoPerm to create a long lasting coverslip. Each roll covers approximately 360 coverslips.

| Product Number | Description | Pkg Size | Price |
|----------------|-------------|----------|---------|
| DL745 | Fungi-Tape | 1 roll | \$45.30 |

SDL SHRINK SEALS

- Colourless transparent cellulose bands for sealing petri dishes, test tubes and microtiter plates
- Ideal for fungus cultures and sensitivity plates for TB
- Ideal for sealing plates that are incubating antibiotic and antibody studies, hybridomas and immunological assays
- Seal dries rapidly without heating

| Product Number | Description | Pkg Size | Price |
|----------------|---|----------|----------|
| DL261 | Shrink Seals for Petri Dishes, 92 mm x 25 mm | 400 | \$128.40 |
| DL259 | Stacking Blocks | 18 | 32.50 |

SDL PLAIN & FROSTED MICROSCOPE SLIDES

- Pre-cleaned frosted or plain microscope slides offered at an unbeatable price
- Measure 1" x 3"
- Come in cases of 10 gross



| Product Number | Description | Pkg Size | Price |
|----------------|----------------------|----------|----------|
| DL045 | Plain Blank Slides | 1,440 | \$226.60 |
| DL050 | Frosted Blank Slides | 1,440 | 226.60 |

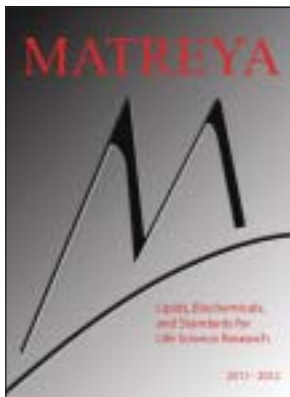
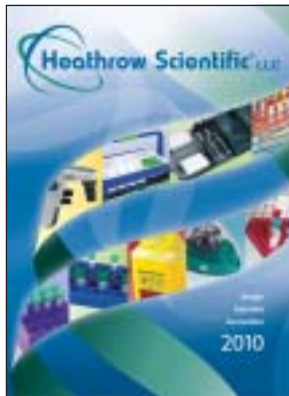
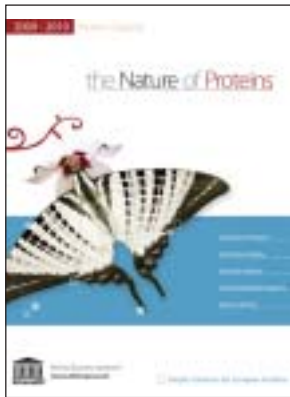
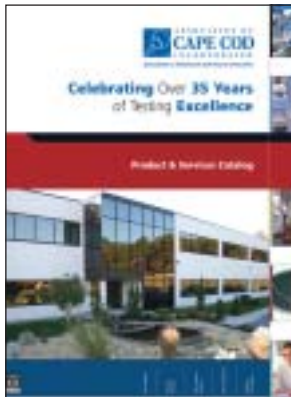
SDL CONTROL SLIDES

- Ideal controls and teaching aids
- A wide variety of control slides are available – Please inquire



| Product Number | Description | Pkg Size | Price |
|----------------|-----------------------------|-----------|---------|
| DL350 | Acid Fast Control | 10 slides | \$35.50 |
| DL351 | Acid Fast Control | 50 slides | 141.20 |
| DL358 | Acid Fast Tissue | 10 slides | 56.70 |
| DL370 | Cryptosporidium | 10 slides | 58.20 |
| DL360 | Gram Stain | 10 slides | 35.50 |
| DL361 | Gram Control | 50 slides | 141.20 |
| DL431 | Iron | 10 slides | 62.70 |
| DL378 | Isospora Belli | 10 slides | 75.50 |
| DL369 | Microsporidia | 10 slides | 58.20 |
| DL8905 | M. tuberculosis (Acid Fast) | 5 slides | 83.10 |
| DL354 | Protozoa | 10 slides | 40.00 |

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www.platypustech.com



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www.spectrumlabs.com



• Density Gradient Media
www.axis-shield.com



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www.isogen-lifescience.com



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www.promocell.com



• Cellular Stress-related Bioreagents
www.stressmarq.com



• Cell Biology Reagents and Kits
www.promokine.info



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www.sunrisescience.com



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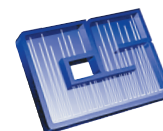
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