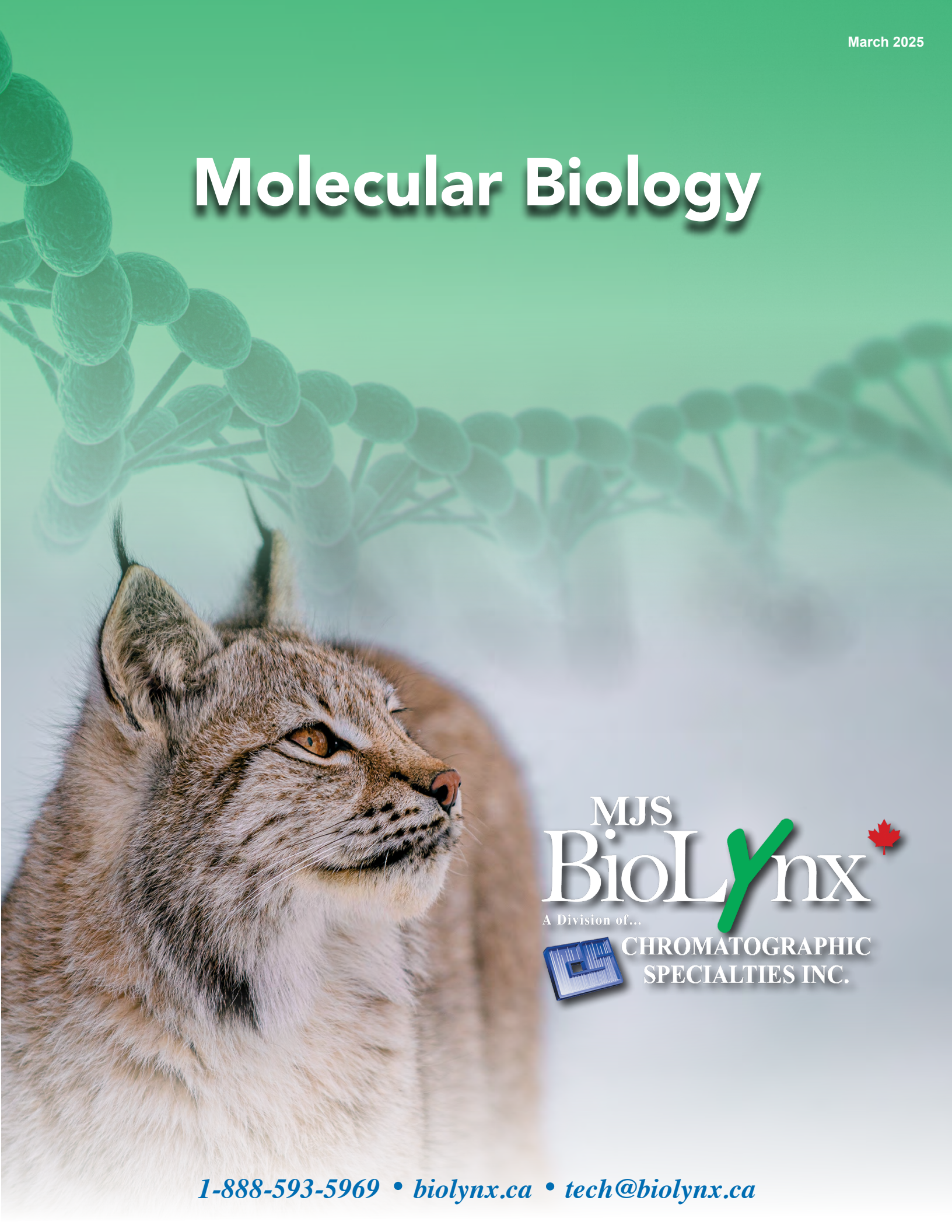
March 2025

Molecular Biology



MJS BioLynx

A Division of...

CHROMATOGRAPHIC SPECIALTIES INC.

1-888-593-5969 • biolynx.ca • tech@biolynx.ca

Table of Contents

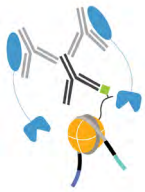
EpiCypher
Bringing Epigenetics to Life

Featured Technologies

Chromatin structure provides a foundational roadmap for gene expression, cellular identity, and disease development. To fully realize the potential of chromatin research for human health, scientists need dynamic technologies that can adapt to their needs and enable new paths of discovery.

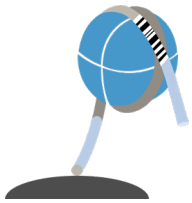
CUTANA™ ChIC / CUT&RUN Assays

Versatile chromatin mapping assays with improved sensitivity, throughput, and costs.



CUTANA™ CUT&Tag Assays

Sister technology to CUT&RUN, developed for specialized epigenomic applications.



SNAP Spike-in Controls

Control for all aspects of your chromatin mapping experiment using their unique spike-in technology.

CUTANA™ ChIC/CUT&RUN Kit

CUTANA™ CUT&RUN kits, reagents, and assay services map histone PTMs and chromatin-interacting proteins with high resolution, at a fraction of the time and cost of standard ChIP-seq experiments.

CUTANA™ CUT&RUN assays offer clear advantages over ChIP-seq:
- Reduced cell input: Compatible with as few as 5,000 cells.
- Diverse target profiling: Histone PTMs and chromatin-interacting proteins (including remodelers).
- Low background: Fewer required sequencing reads per sample (3-5 million).
- Reduced cost: Save 10X in sequencing costs.
- Fast and user-friendly: From cells to sequencing data in less than four days .

CUTANA™ CUT&RUN Library Prep Kit

The CUTANA™ CUT&RUN Library Prep Kit offers high-fidelity library generation for Illumina® sequencing by harnessing the power of New England Biolabs® best-in-class NEBNext® reagents. The kit offers a streamlined protocol specifically optimized for high-sensitivity CUT&RUN applications, including those with low cell inputs.

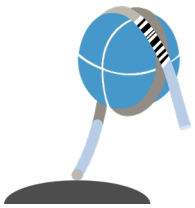
CUTANA™ CUT&Tag Kit

CUTANA™ CUT&Tag kits, reagents, and protocols enable chromatin profiling from low cell numbers with improved throughput, high sensitivity, and reduced sequencing costs compared to traditional ChIP-seq assays.

CUT&Tag – Powerful assays for next-generation epigenomic profiling:
- Fast: Cells to sequencing in 2 days.
- Streamlined: Exclusive single-tube protocol, no library prep.
- High Sensitivity: Reliable data down to 10,000 cells.
- Dramatic cost savings: Only requires 5-8 million sequencing reads.

SNAP-CUTANA™ Spike-in Controls

SNAP-CUTANA™ Spike-ins are quantitative controls that support robust CUT&RUN and CUT&Tag experiments, so you can trust your results. These panels are made up of DNA-barcoded Designer Nucleosomes (dNucs™) and offered in sets of histone post-translational modifications (PTMs) as well as common epitope tags.



SNAP-CUTANA™ Spike-in Controls offer:
- Direct readout of assay success.
- *In situ* validation of antibody specificity.
- Quantitative sample normalization.
- Compatibility with CUTANA™ CUT&RUN and/or CUT&Tag.

The best histone PTM antibodies. Period.

EpiCypher takes a unique approach to validating histone post-translational modification (PTM) antibodies. Their exclusive SNAP Spike-in technology is the only method that uses physiological nucleosome controls to directly quantify antibody performance in ChIP, CUT&RUN, and CUT&Tag workflows. The resulting SNAP-Certified™ Antibodies have multiple advantages:

- Superior target specificity and affinity.
- Robust performance in CUT&RUN and CUT&Tag.
- Improved PTM profiling from low cell numbers.
- Increased reliability through lot-specific testing.

Ordering Info

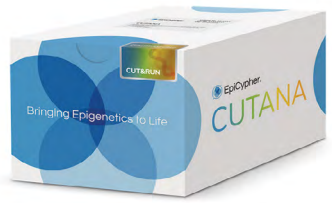
Epigenetics

EpiCypher
Bringing Epigenetics to Life

CUT&RUN
(Cleavage **U**nder **T**argets **& R**elease **U**sing **N**uclease**)**
The Ideal Assay for most Epigenomic Mapping Experiments.

CUTANA™ ChIC / CUT&RUN Assays

CUTANA™ CUT&RUN kits, reagents, and assay services map histone PTMs and chromatin-interacting proteins with high resolution, at a fraction of the time and cost of standard ChIP-seq experiments.



CUTANA™ CUT&RUN assays offer clear advantages over ChIP

- **Reduced cell input –** Compatible with as few as 5,000 cells
- **Diverse target profiling –** Histone PTMs and chromatin-interacting proteins (including remodelers)
- **Low background –** Fewer required sequencing reads per sample (3-5 million)
- **Cost-effective –** Reliable, robust, streamlined workflow

CUT&RUN is the ideal assay for most epigenomic mapping experiments. It provides a good balance between cell requirements, target compatibility, throughput, and sequencing costs. The protocol is simple enough to be adapted in both new and expert-level labs and is made even easier with the development of the CUTANA™ CUT&RUN Kit and the CUT&RUN Library Prep Kit.

The 8 Basic Steps of CUT&RUN

Step 1: Immobilize Cells
Cells are bound to magnetic beads coated with Concanavalin A (ConA), a lectin that binds to cell surface proteins.

Step 2: Permeabilize Cells
Immobilized cells are treated with a buffer containing digitonin, a nonionic detergent that permeabilizes cell membranes at low concentrations.

Step 3: Incubation with target-specific antibody
An antibody to the target of interest is added to the reaction and incubated overnight at 4˚C.

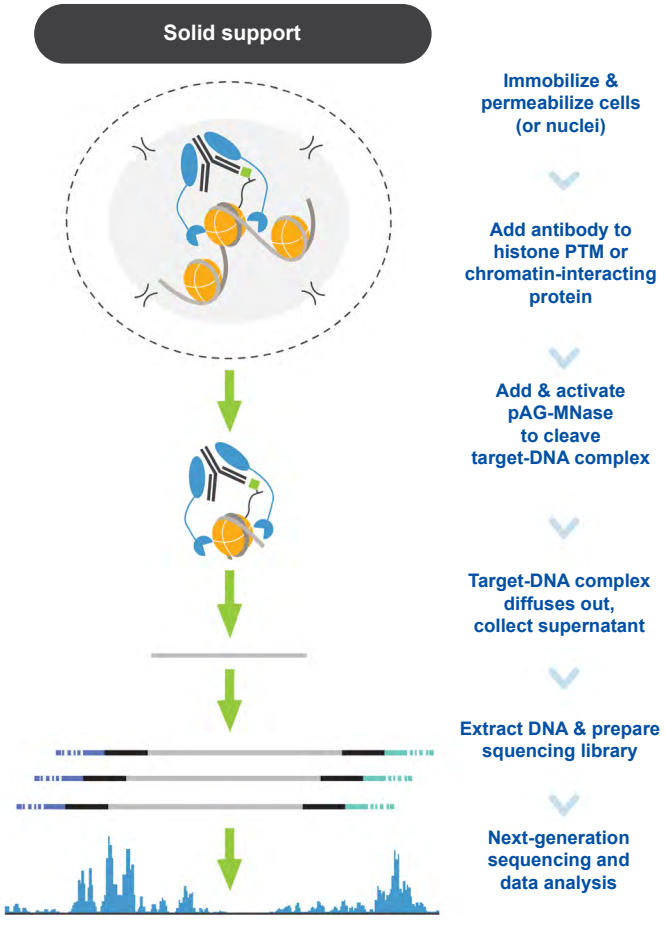
Step 4: Add pAG-MNase
The following day, bead-bound cells are washed and then pAG-MNase is added to the reaction.

Step 5: pAG-MNase Activation
Calcium (Ca^{2+}) is added to the reaction to activate MNase, which cleaves DNA proximal to where the antibody is bound. Cleaved chromatin fragments diffuse into the supernatant; while remaining bulk chromatin remains inside the bead-immobilized cells.

Step 6: DNA Purification
Isolation of CUT&RUN enriched DNA is straightforward since the cells remain bound to magnetic ConA beads. Bead-coupled cells containing bulk chromatin are magnetically separated from the clipped target DNA, which remains in solution. Target DNA is purified using a column clean up kit optimized for small fragments and quantified with a fluorometric assay.

Step 7: CUT&RUN Library Prep
Purified CUT&RUN DNA is repaired, ligated to sequencing adapters, and PCR-amplified to generate NGS libraries. PCR is performed using parameters optimized for low CUT&RUN yields and small fragment sizes, and barcoded primers are used to enable multiplexed sequencing. EpiCypher's Library Prep Kit is specifically optimized for CUT&RUN and streamlines your workflow.

Step 8: Next-Generation Sequencing (NGS)
Libraries are pooled at equimolar ratios and loaded onto the desired platform for NGS. Only 3-8 million reads per sample are required for robust signal over background (vs. >20 million for ChIP-seq), allowing users to multiplex 10s-100s of samples in a single run.



CUT&Tag the "Expert-Level" Chromatin Mapping Assay

(Cleavage **U**nder **T**argets **& Tag**mentation)

A novel immunotethering-based chromatin mapping assay.

CUT&Tag is more technically challenging vs. CUT&RUN. CUT&Tag is best suited for scientists with broad technical expertise in chromatin mapping assays.

CUT&Tag is **NOT** recommended if you are:

- New to epigenomic mapping assays.
- A frequent ChIP-seq user trying out CUTANA chromatin mapping assays.
- Trying to map a new target and/or use a new cell type.
- Mapping low abundance targets or transcription factors and other chromatin-associated proteins.

How does CUT&Tag work?

In CUT&Tag, a fusion of protein A, protein G, and Tn5 transposase (pAG-Tn5) is used to cleave and add sequencing adapters at antibody-bound chromatin. Tagmented DNA is selectively amplified by PCR and sequenced.

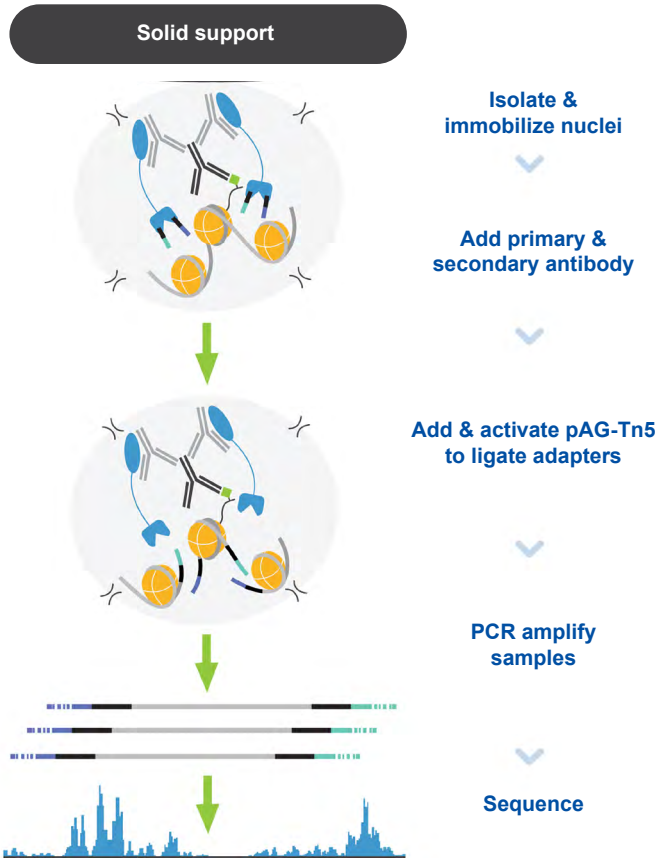
CUT&TAG: Powerful assays for next-generation epigenomic profiling

- **Fast –** Cells to sequencing in 2 days.
- **Streamlined –** Exclusive single-tube protocol, no library prep.
- **High Sensitivity –** Reliable data down to 10,000 cells.
- **Dramatic Cost Savings –** Only requires 5-8 million sequencing reads.

Why is CUTANA™ CUT&Tag good for innovative low-input applications?

- Tn5 tagmentation eliminates traditional cross-linking, chromatin fragmentation, IP, and library prep steps, reducing hands-on time and maximizing target recovery.
- Resulting profiles have improved signal over background using small numbers of cells and deliver major cost savings.
- EpiCypher's exclusive **Direct-to-PCR** CUT&Tag protocol streamlines this process by allowing you to go from cells to PCR amplified DNA libraries in one tube.
- Enables complex and/or custom multiplexing strategies, such as combinatorial indexing.

Currently, CUTANA™ CUT&Tag is **only recommended for mapping histone PTMs**



For more Information on
CUT&RUN & CUT&TAG Scan the QR Code

Ordering Info

RNA/DNA Extraction

BioEcho is a specialized solution provider for the extraction and analysis of nucleic acids using spin column technology. They create disruptive technologies, products, and workflows that make downstream processing of nucleic acids easier and faster.

BioEcho's EchoLUTION™ Technology

Fast and Convenient – DNA and RNA extraction in just one single step, 50-70% faster than established methods.

High Sensitivity – Highly pure DNA/RNA free of contaminants and inhibitors.

Reliable Results – Lysis under physiological conditions results in long and intact DNA/RNA perfectly suited for downstream applications such as PCR, NGS, RT-PCR, RNAseq, and more.

Sustainable – Reduces plastic consumption by up to 70% and minimizes use of hazardous reagents.

Available EchoLUTION™ Products:

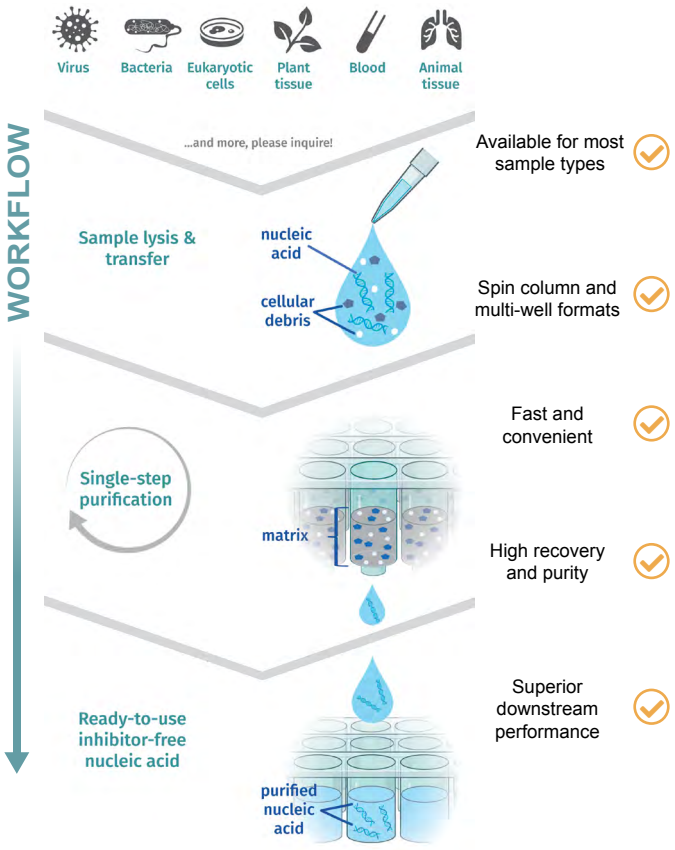
RNA Extraction: Cell Culture, Viral, FFPE, Tissue

DNA Extraction: Blood, Buccal Swab, Cell Culture, FFPE, Plant, Tissue, Viral

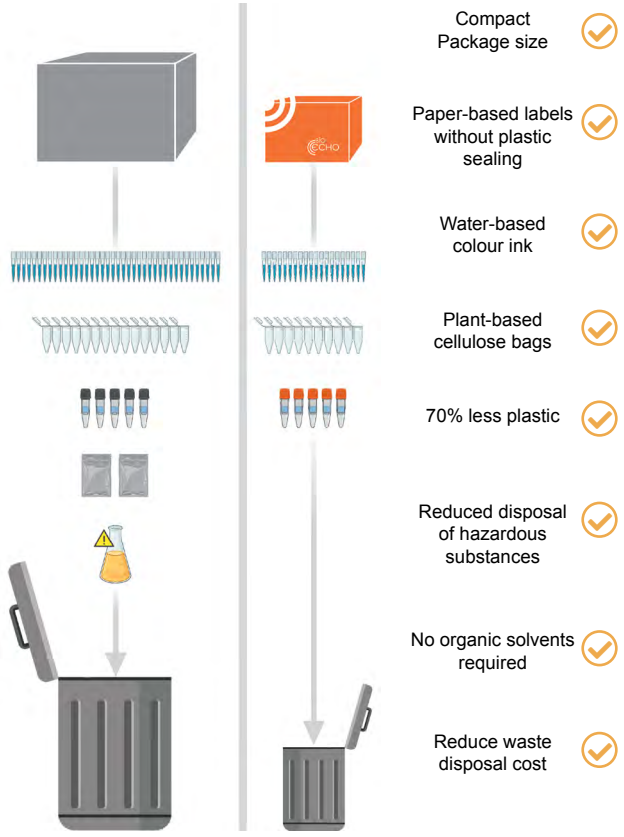
Nucleic Acid Cleanup: DNA Cleanup, DNA Organic Solvent Cleanup, RNA Cleanup Enzymes, Reagents and Accessories

Ordering Info

The EchoLUTION™ DNA and RNA extraction technology



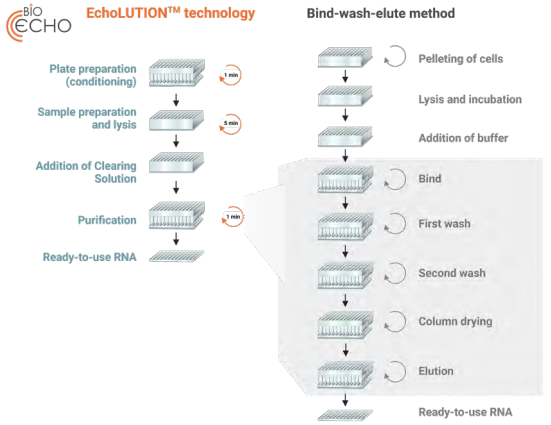
Sustainability is in their DNA
with BioEcho you can save on storage space and waste disposal



RNA/DNA Extraction

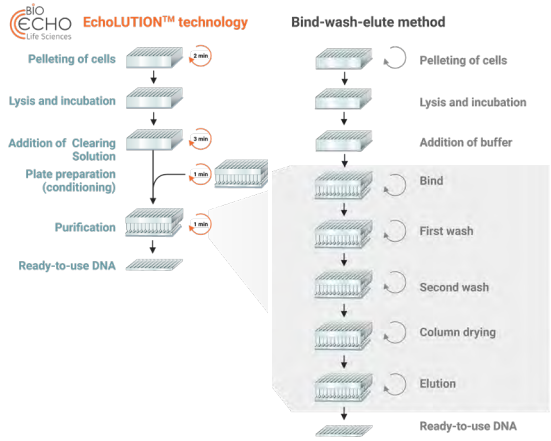
EchoLUTION™ Cell Culture RNA Kit

- Optimized to eliminate most gDNA. The gDNA Removal Mix can be used to remove residual DNA (ordered separately).
- Workflow for 4 manual samples in 12 minutes and a complete 96-well plate in only 20 minutes.
- Highly pure RNA free of contaminants and inhibitors.
- Purification 50 - 70% faster than established kits on the market.
- Avoids inhibitory reagents (e.g., EtOH) in the final product, which provides an RNA sample perfectly suited for downstream applications.
- Up to 60% less plastic consumption compared to other extraction methods and no usage of hazardous reagents.
- Ultra-fast non-enzymatic lysis, Inactivates nucleases and stabilizes nucleic acids.



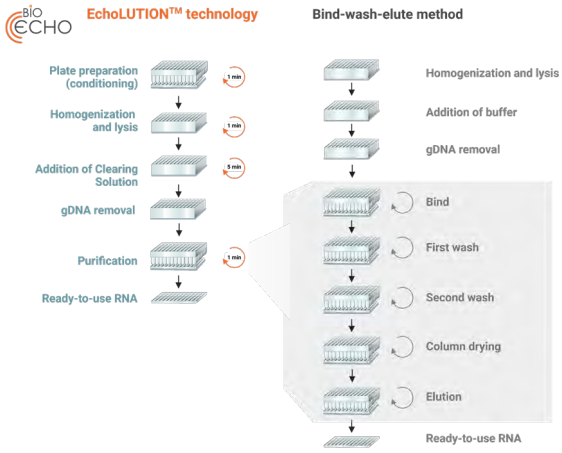
EchoLUTION™ Cell Culture DNA Kit

- Workflow complete in just 30 minutes and 5 steps.
- Highly pure DNA free of contaminants and inhibitors.
- Lysis under physiological conditions results in long and intact DNA perfectly suited for downstream applications such as PCR and NGS.
- Up to 70% less plastic consumption compared to other extraction methods and no usage of hazardous reagents.



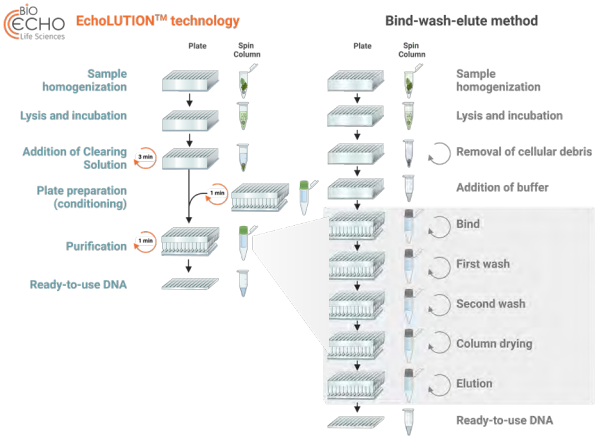
EchoLUTION™ Tissue RNA Kit

- Single-step purification, saving up to 60 % of processing time.
- Suitable for extraction of total RNA from fresh frozen or stabilized mammalian tissues, including challenging tissues such as muscle.
- Highly pure RNA free of contaminants and inhibitors.
- High purity and competitive RNA integrity perfectly suited for downstream applications such as RT-qPCR and RNA-seq.
- Less hazardous reagents - quality RNA without TRIzol/chloroform.



EchoLUTION™ Plant DNA Kit

- Workflow completed in less than 1.5 hours for 96 samples.
- Suitable for a wide range of plant species such as strawberry, parsley, tomato, potato, wheat, barley, and many others.
- Highly pure DNA free of contaminants and inhibitors.
- Lysis under aqueous conditions results in long and intact DNA perfectly suited for downstream applications such as PCR and NGS.
- Up to 56 % less plastic consumption compared to other extraction methods and no usage of hazardous reagents.



Magnetic Bead RNA/DNA Extraction

For Viral DNA/RNA Extractions

ProtonDx was established in 2020 to commercialise multi-disciplinary research, developed at Imperial College London to deliver rapid, accurate, portable, and low cost diagnostics available worldwide. They have now developed a line of products for scientific research, and we are pleased to be able to bring those products to Canadian Life Science Researchers.

Twelve viral DNA/ RNA extractions in less than ten minutes!

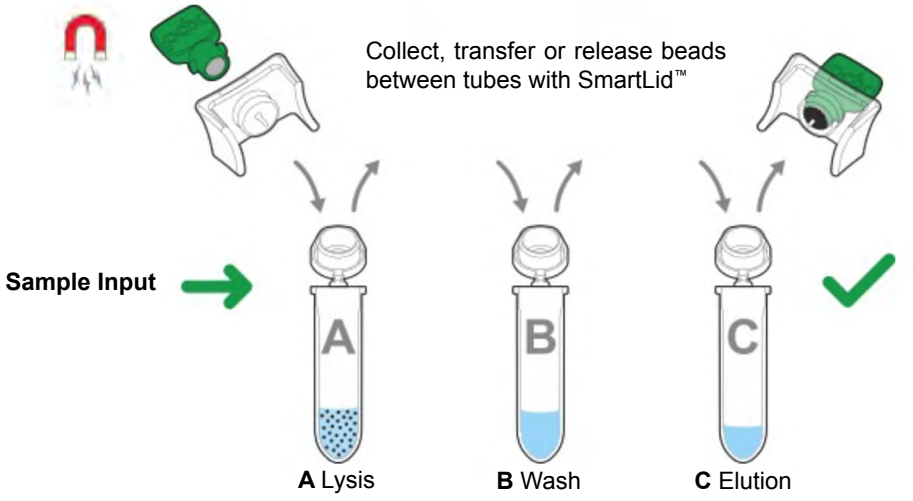
SmartLid™ is based on a proprietary magnetic key and lid, designed to quickly and easily transfer magnetic beads and attached nucleic acids through a series of three simple sample extraction steps: Lysis, Wash, and Elution. The process is power-free, reduces pipetting, and can extract twelve samples in under ten minutes. Using this technology, they created the Viral DNA/RNA Extraction Kit, bulk packaged for 50 extractions.

The visible speed and efficiency of SmartLid™ is due to superparamagnetic beads, delivering ultra-fast extractions.

Capture: Magnetic beads capture DNA/RNA for transfer between tubes.

Collect: Inverting the tube with the Magnetic Key collects the magnetic beads onto the SmartLid™.

Transfer: Within seconds the liquid is clear, and collection is complete and ready to transfer.



SmartLid™ Rack and SmartLid™ Shaker provide simultaneous processing of twelve samples.

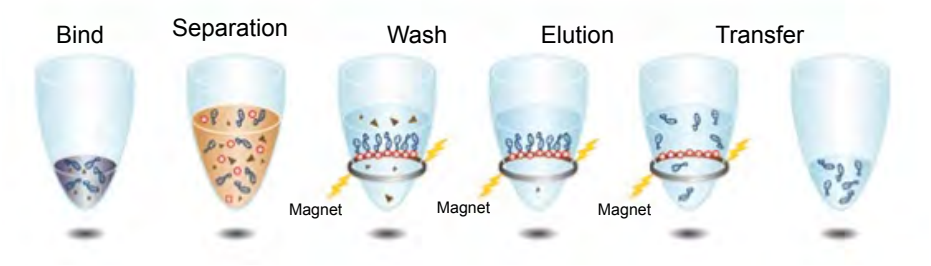
Ordering Info

Magnetic Bead RNA/DNA Extraction

MagBio offers targeted and cost-effective magnetic bead-based products for medium and high-throughput NGS library prep cleanup, PCR products cleanup, Sanger sequencing reaction cleanup as well as genomic DNA and RNA purification kits.

MagBio Genomics kits are fully adaptable with robotic liquid handling platforms currently available in the market – ensuring efficient cleanup for PCR and sequencing products, DNA normalization, and NGS library prep cleanup for both Illumina® and Ion Torrent™/PGM platforms.

Magnetic Bead Technology OR
SPRI (Solid Phase Reversible Immobilization)



Science Behind the Beads

Positively charged magnetic beads attract nucleic acids which have a negative charge due to their phosphate backbone. Numerous binding options available with salts, alcohol group and detergents.

MAGBIO
ACCELERATING genomic research

Advantages

- High binding capacity and excellent sensitivity.
- Reduce contamination, achieve better yields and better purity compared to column-based methods.
- More suitable for automation, high throughput processing – no centrifugation.
- Can be used for NA Library Clean up, Fragment Selection, NA Purification, NA Extraction, and NA Normalization.
- Best suited for downstream NGS applications.

HighPrep HMW DNA Kit

The HighPrep HMW DNA Kit is designed for the isolation of high molecular weight genomic DNA from saliva, cultured cells, tissues samples, whole blood and bacteria.

Applications

HMW DNA isolation is suitable for molecular applications such as:

- Long read sequencing
- Next generation sequencing
- Microarray
- PCR amplification and genotyping
- Cloning
- Restriction enzyme digestion

Benefits

- Isolation of high-quality, high molecular weight DNA 50-300+ kb.
- HMW DNA is suitable for all third-generation sequencing platforms including Nanopore and PacBio SMRT sequencing.
- Achieve high yields of DNA from a wide range of sample matrices.
- Efficient scale-up and flexibility.
- Amenable to automation and has easy to use protocols. (Kingfisher™ scripts are ready)
- Comes with RNase to minimize the co-purification of RNA.

HighPrep PCR

Paramagnetic bead-based post PCR clean-up reagent designed for efficient DNA purification and consistent DNA fragment size selection for NGS. HighPrep PCR is adaptable to most liquid handling stations and used for applications such as sequencing, NGS, microarrays, PCR, and enzymatic reactions.

Applications

Post-PCR and post-enzymatic reaction clean-up used for/during:

- NGS library preparation
- DNA size selection for NGS
- Microarrays
- PCR
- Restriction enzyme digestions, adapter ligations
- Cloning

Benefits

- Rapid and reliable post-PCR and DNA clean-up reagent.
- Achieve uniform and consistent DNA fragments.
- High recovery of amplicons >100bp.
- Uniform fragments size distribution.
- Adaptable to high throughput liquid handling workstations.

Ordering Info

Endpoint PCR

Solis BioDyne has been developing and producing life science reagents since 1995. High standards for production and service have made Solis BioDyne a trusted trademark worldwide. Their DNA polymerases, PCR Master Mixes, qPCR Mixes, reverse transcription and isothermal amplification reagents are used by top research institutes and biotech-companies. Their fast mixes are highly sensitive, stable at room temperature, and offer exceptional performance across a wide range of templates.

Their full range of endpoint PCR reagents includes:

- Hot-start and standard DNA polymerases with buffers
- Convenient Master Mixes for GC-rich and multiplex reactions
- Master Mixes with Ready-to-Load feature enable direct loading to gel

Endpoint PCR Enzymes and Master Mixes

Product	Hot Start	Ready to Load	dUTP+ UNG	Fidelity vs. Taq	Amplification Range[a]	Resulting Ends	Speed	GC-rich Performance	Multiplex PCR
FIREPol® DNA Polymerase Kit				1x	5 kb	3'A	*	**	**
FIREPol® Master Mix				1x	5 kb	3'A	*	*	*
FIREPol® Master Mix Ready to Load		●		1x	5 kb	3'A	*	*	*
HOT FIREPol® DNA Polymerase Kit	●			1x	5 kb	3'A	*	**	**
HOT FIREPol® GC Master Mix Kit	●			1x	5 kb	3'A	*	***	*
HOT FIREPol® MultiPlex Mix	●			1x	5 kb	3'A	*	*	***
HOT FIREPol® MultiPlex Mix Ready To Load	●	●		1x	5 kb	3'A	*	*	***
HOT FIREPol® Blend Master Mix	●			5x	5 kb	3'A/Blunt	*	*	*
HOT FIREPol® Blend Master Mix Ready to Load	●	●		5x	5 kb	3'A/Blunt	*	*	*
NEW! SolisFAST® Master Mix	●			1x	5 kb	3'A	***	*	***
NEW! SolisFAST® Master Mix, Ready to Load	●	●		1x	5 kb	3'A	***	*	***
NEW! SolisFAST® Master Mix with UNG	●		●	1x	5 kb	3'A	***	*	***
NEW! SolisFAST® Master Mix with UNG, Ready to Load	●	●	●	1x	5 kb	3'A	***	*	***

[a] Enables amplification of up to 5 kb fragments from low complexity DNA templates (e.g. cDNA, lambda, plasmid DNA), and up to 3 kb from genomic DNA (human, animal, plant).
Legend: *Good ** Better *** Best

FIREPol® DNA Polymerase Kit
A highly processive, thermostable Taq DNA polymerase with unique 30-day stability at room temperature.

FIREPol® Master Mix
Convenient Master Mix for standard PCR applications, based on FIREPol® DNA Polymerase. Also comes in a "Ready to Load" version which includes two tracking dyes for direct loading on gel.

HOT FIREPol® DNA Polymerase Kit
30-day room temperature stability for everyday PCR needs.

HOT FIREPol® GC Master Mix Kit
Designed to provide highly specific high-yield amplification of GC-rich templates.

Ordering Info

HOT FIREPol® MultiPlex Mix
High performance hot-start Master Mix for efficient multiplex reaction - analyze up to 18 targets in one reaction. Also comes in a "Ready to Load" version.

HOT FIREPol® Blend Master Mix
Robust and reliable hot-start Master Mix with higher fidelity and longer amplification range for more demanding reactions. Also comes in a "Ready to Load" version which includes two tracking dyes.

SolisFAST® Master Mix
Ultra fast endpoint PCR Master Mix that includes novel *in-silico* designed SolisFAST® DNA Polymerase for robust and accurate target detection. Also comes in a "Ready to Load" version which includes two tracking dyes.

SolisFAST® Master Mix with UNG
Ultra fast endpoint PCR Master Mix that includes novel *in-silico* designed SolisFAST® DNA Polymerase for robust and accurate target detection. Suitable for UNG treatment to prevent carryover contamination. Also comes in a "Ready to Load" version which includes two tracking dyes.

qPCR and RT-qPCR

Solis BioDyne's qPCR and one-step RT-qPCR kits are optimized, and ready-to-use solutions for real-time qPCR assays with all the components necessary to perform qPCR. Solis BioDyne has mixes for both probe-based approaches and intercalating dye-based approaches.

Solis BioDyne's probe-based qPCR mixes are optimized for real-time quantitative PCR assays and contain all the components necessary (except primers and probes) to perform qPCR. Probe-based qPCR is based on 5' flap endonuclease activity and their mixes are optimized for DNA/LNA hydrolysis probes (i.e. TaqMan probes)

To find a suitable mix for your qPCR cycler, please check the qPCR Cycler Compatibility tool in the QR code.

Mixes for Dye-based qPCR Assays

Product	Speed	Sensitivity	GC-rich Performance	dUTP	UNG
NEW! SolisFAST® SolisGreen® qPCR Mix	***	**	*		
HOT FIREPol® SolisGreen® qPCR Mix 2.0	*	***	*		
HOT FIREPol® EvaGreen® qPCR Supermix	*	**	***	●	
HOT FIREPol® EvaGreen® qPCR Mix Plus	*	*	*		
HOT FIREPol® EvaGreen® HRM Mix	*	***			

Mixes for Probe-based qPCR Assays

Product	Speed	GC-rich Performance	Multiplex qPCR	dUTP	UNG
NEW! SolisFAST® Probe qPCR Mix	***	*	up to 5 targets		
NEW! SolisFAST® Lyo-Ready qPCR Kit with UNG	***	*	up to 5 targets		
NEW! SolisFAST® Probe qPCR Mix with UNG	***	*	up to 5 targets	●	●
HOT FIREPol® Multiplex qPCR Mix	*	***	up to 4 targets	●	
HOT FIREPol® Probe Universal qPCR Kit	*	***	up to 2 targets	●	
HOT FIREPol® Probe qPCR Mix Plus	*	*	up to 2 targets		

One-step RT-(q)PCR

	Product	No. of targets per reactions	GC-rich Performance	dUTP	UNG	Passive reference dye	Compatible cyclers	Incompatible probe reporter dyes
Dye-based detection	SOLIScript® 1-step SolisGreen® Kit 2.0	1	*	●		ROX	Most cyclers, except ABI StepOne and StepOnePlus, 7300, 7900HT	n/a
Probe-based detection	SOLIScript® 1-step Probe Kit	1-2	*			ROX	All Cyclers	ROX, JUN, Texas Red
	SOLIScript® 1-step Multiplex Probe Kit without ROX	1-4	***	●		None	Most cyclers, except ABI and Stratagene	
	SOLIScript® 1-step Multiplex Probe Kit with ROX	1-4	***	●		ROX	All cyclers. Recommended with ABI and Stratagene	ROX, JUN, Texas Red
	SOLIScript® 1-step Multiplex Probe Kit Purple	1-4	***	●		Purple	ABI cyclers with Mustang Purple® detection channel	Cy5
	SOLIScript® 1-step CoV Kit	1-4	*	●		None	Most Cyclers	
	NEW! SOLIScript® Fast 1-step RT-qPCR Mix with UNG	1-5	**	●	●	None	Most Cyclers	

Legend: *Good ** Better *** Best

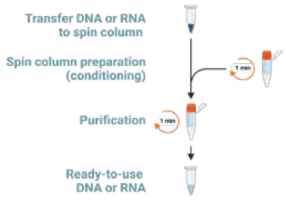
Nucleic Acid Clean Up

BIO ECHO Life Sciences

Get rid of impurities in RNA & DNA samples with a single-step centrifugation.

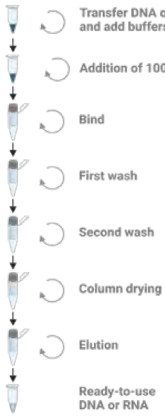
EchoCLEAN Clean up Kits

EchoLUTION technology



- Only 2 steps needed
- No additional buffers required
- Whole workflow 10 x faster

Bind-wash-elute method



	Impurities to be removed											
	Organic Solvents				Salts				Dyes		Others	
Kit	Phenol	Trizol	Chloroform	Ethanol	Chaotrophs	Salts	SDS	Sodium azide	Indigo	Gel loading	Primers	dNTPs	Precipitates
EchoCLEAN DNA Cleanup Kit (for DNA >50 bp)				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EchoCLEAN Organic Solvent DNA Cleanup Kit	✓	✓	✓	✓	✓	✓							✓
EchoCLEAN RNA Cleanup Kit	✓	✓	✓	✓	✓	✓							✓

	Application					
Kit	Phenol-based extraction	Desalting of nucleic acids	Post silica-based extraction	PCR clean up	Enzymatic reaction clean up	Buffer exchange
EchoCLEAN DNA Cleanup Kit (for DNA >50 bp)		✓	✓	✓	✓	✓
EchoCLEAN Organic Solvent DNA Cleanup Kit	✓	✓	✓			✓
EchoCLEAN RNA Cleanup Kit	✓	✓	✓			✓

The **EchoCLEAN** Clean up Kits remove inhibitors and impurities from DNA and RNA samples to improve the results of your downstream applications such as PCR or (NGS). Thanks to their single-step centrifugation technology, you can clean your DNA and RNA products in less than 10 minutes.

The EchoCLEAN Kits efficiently remove: salts such as guanidinium thiocyanate (GTC), detergents, nucleotides, primers, enzymes, and organic solvents (e.g., phenol, chloroform, and ethanol).

10 x Faster and ~70% fewer handling steps – With EchoCLEAN, you will forget about bind-wash-elute.

Reduce environmental footprint – 70% less plastic consumption, plastic-free packaging, and less transportation weight.

Available EchoCLEAN Products:

- EchoCLEAN DNA CleanUp Kit (for DNA >50 bp)
- EchoCLEAN RNA CleanUp Kit
- EchoCLEAN Organic Solvent DNA CleanUp Kit

Ordering Info

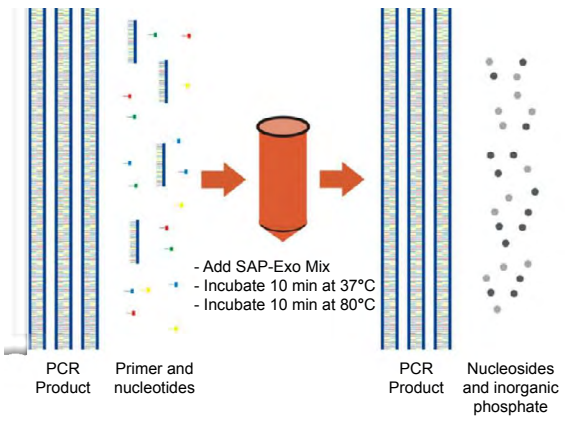
Jena Bioscience

SAP-Exo Kit is a quick, easy and reliable enzymatic cleanup reagent for PCR product cleanup.

SAP-Exo Kit for PCR Product Clean-up

SAP-Exo Kit removes excess primers and dNTPs within 15 minutes. The kit is specially recommended to clean-up PCR products for subsequent applications like sequencing, genotyping, cloning, or SNP analysis.

- Removes excess primers and dNTPs
- Fast 20-minute protocol
- Add directly to PCR product
- 100 % Sample Recovery
- Scalable for different reaction sizes
- No interference on downstream applications
- Easy to automate



Description:

The Kit contains two hydrolytic enzymes, recombinant Shrimp Alkaline Phosphatase (rSAP) and Exonuclease I (Exo I). The combination of these enzymes ensures complete dephosphorylation of dNTPs and degradation of residual primers. The reagents are active in commonly used PCR buffers and eliminates the need for additional buffer exchange.

Jena Bioscience

…Because nucleotides don't get better than this.

• Ultrapure • Exceptional performance • Stable for 2 years at -20°C • Custom Formulations

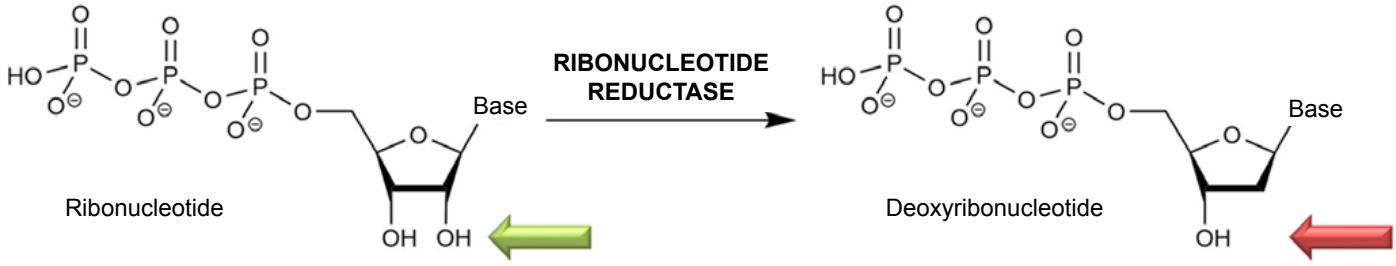
• Free from: Bacterial and Human DNA, Potential Inhibitors, DNases, RNases, Nicking enzymes, Proteases

dNTP Solutions

	dATP sodium salt 100 mM solution	dCTP sodium salt 100 mM solution	dGTP sodium salt 100 mM solution	dTTP sodium salt 100 mM solution	dUTP sodium salt 100 mM solution
Nomenclature	2'-Deoxyadenosine 5'-triphosphate	2'-Deoxycytidine 5'-triphosphate	2'-Deoxyguanosine 5'-triphosphate	2'-Deoxythymidine 5'-triphosphate	2'-Deoxyuridine 5'-triphosphate
CAS No.	1927-31-7	102783-51-7	93919-41-6	18423-43-3	102814-08-4
Formula (anion)	$C_{10}H_{13}N_5O_{12}P_3$	$C_9H_{13}N_3O_{13}P_3$	$C_{10}H_{13}N_5O_{13}P_3$	$C_{10}H_{14}N_2O_{14}P_3$	$C_9H_{12}N_2O_{14}P_3$
Formula weight (g x mol^{-1})	488.16	464.13	504.16	479.14	465.12
Molar Extinction Coefficient[1]	ε = 15.1l x mmol^{-1} x cm^{-1}; 259 nm	ε = 8.9 l x mmol^{-1} x cm^{-1}; 271 nm	ε = 14.2 l x mmol^{-1} x cm^{-1}; 252 nm	ε = 9.5 l x mmol^{-1} x cm^{-1}; 267 nm	ε = 9.8 l x mmol^{-1} x cm^{-1}; 262 nm

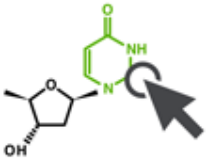
Production Technology

Jena Bioscience is one of only a few primary manufacturers of dNTPs for PCR. Their high quality starts with their production technology. Many problematic impurities, such as pyrophosphate and modified nucleotides, are by-products from chemical synthesis. These impurities can severely impact PCR performance. That's why they synthesize all of their dNTPs enzymatically, meaning many common impurities are never even present in their solutions. Any remaining impurities are removed with several state-of-the art purification procedures. For dATP, dCTP, dGTP, and dUTP, they start with the respective ribonucleotide, and use the highly specific Ribonucleotide Reductase enzyme (Scheme 1). While for dTTP, they use enzymes to sequentially phosphorylate thymidine.



Scheme 1. The bacterial enzyme ribonucleotide reductase selectively reduces the 2' -OH-group of selected ribonucleotide (NTP) to give the corresponding Deoxyribonucleotide (dNTP). Our enzymatic sythesis is performed in this manner on a kilogram scale.

Nucleotides & Nucleosides Selection Tools



Scan QR Code to search by application or by structure

Ordering Info

Synthetic High Purity Oligonucleotides

OROCHEM
Molecular Purification by Design

Orochem ZARA

Step into the precision-driven world of genetic research with Orochem Technologies Inc.'s ZARA Synthetic High Purity Oligonucleotides. Their extensive portfolio is meticulously designed to meet the nuanced needs of researchers and scientists in the realm of genetic engineering. From foundational DNA oligos to intricate RNA structures and specialized modified oligos, their expertise is matched by their capabilities to deliver solutions that are nothing short of exact. With the ZARA line's guaranteed HPLC purity, your research is poised for unparalleled accuracy and groundbreaking discoveries.

Technical Specifications:

- **Amount:** 16, 32, and 96 µg per tube.
- **Purification:** HPLC purity, 90% full-length.
- **Sequence Lengths:** Ranging from 6 to 45 nucleotides.
- **Quality Control:** Each product comes with COA including LC-UV and LC-MS data.
- **Format:** Delivered lyophilized in tubes.

For research application only, not for diagnostic procedures.

DNA Hybridization Probes: The Cornerstone of Genetic Analysis

DNA probes are renowned for their specificity in detecting and differentiating particular nucleic acid sequences. Orochem's ZARA line offers a comprehensive catalog of DNA hybridization probes and sequencing primers, meticulously crafted to support precise genetic analysis.

Product Number	Synthetic Oligo Name	Sequence	Length (mer)	Primer
C61ZD20001A	Sequencing Primer, pBR322 Bam HI Clockwise	5'-d-CAC TAT CGA CTA CGC GAT CA- 3'	20	Unlabeled
C61ZD16001A	Sequencing Primer, pBR322 Bam HI Counterclockwise	5'-d-ATG CGT CCG GCG TAG A-3'	16	Unlabeled
C61ZD15001A	Sequencing Primer, pBR322 EcoRI Clockwise	5'-d-GTA TCA CGA GGC CCC-3'	15	Unlabeled
C61ZD15002A	Sequencing Primer, pBR322 EcoRI Counterclockwise	5'-d-GAT AAG CTG TCA AAC -3'	15	Unlabeled
C61ZD16004A	M13 Hybr ProbPrim	d-CAC AAT TCC ACA CAA C	16	M13 Sequencing
C61ZD16005A	pUC/M13Rev(-24)	d-AAC AGC TAT GAC CAT G	16	M13 Reverse Sequencing

Custom Oligo Synthesis Services:

- DNA and RNA
- DNA-RNA Hybrid
- HPLC Quality
- Confirmation of Oligo Structure by MS
- Purity by HPLC and IE
- Nano Moles to Micro Moles Scale

Options for Oligo Modifications:

- Backbone modification
- Chimeric molecules – combination of DNA, RNA, LNA, 2'-OMe, and 2'Fluoro
- Amino, Thio and Biotin spacers
- Labeled probes (FAM, HEX, TET, ROX, Cy-3, Cy-5, etc.)

Ordering Info

Oro-Flex Special Plate for Synthesis Macromolecule (96 Well Plate, 0.7 mL)

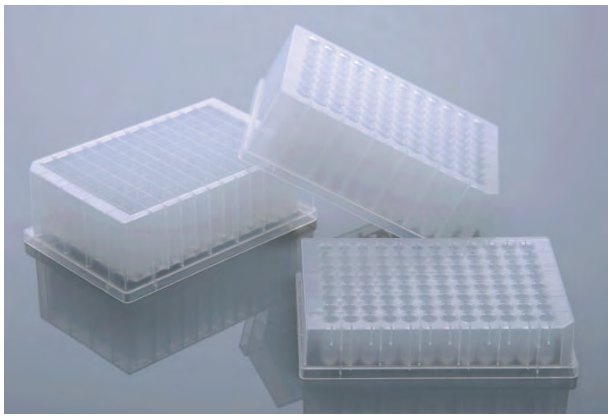
This product is designed for synthesis and purification of large molecules; for purification of combinatorial libraries; for screening pharmaceuticals in biological fluids; for filtration and clean up of RNA or DNA samples prior to PCR sequencing. It provides excellent flow rate and low sample volume retained.

Three different pore sizes are available: 7, 10 and 20 micron.

Deep Well Plates

Features

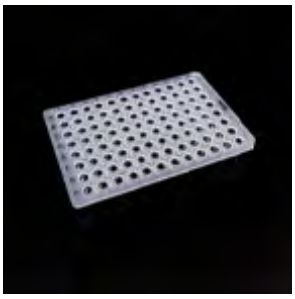
- High quality imported PP material employed for high stability and no chemical reactions with test reagents.
- Compatible with DMSO and inert to water.
- Can be stored under subzero temperature from -40 to -80°C.
- Maximum sustainable centrifuge force 4000g.
- Autoclavable at 20psi, 121°C for 20 minutes, great heating uniformity.
- Minimum residual liquid, low heavy metal content.
- Certified DNase/RNase and Pyrogen Free.
- Conformed to international SBS standards.
- 48 & 96 Round Well and 24, 48 & 96 Square Well, U and V bottom are available.
- Alphabetical sorting and corner cut marking for convenient tracking of samples.
- Each package has a separate article number/batch number identification, facilitating the quality tracking.

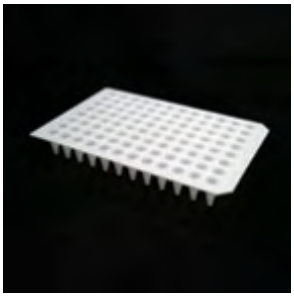


PCR 96 Well Plates

Features

- Made of high-quality polypropylene to ensure minimal loss of reaction solution.
- Flat surface, thick and solid, not easy to deform.
- The black ink-printing marks on the surface are easy to read and identify.
- Elevated edge of the hole can better prevent cross contamination.
- Compatible with NEST pressure sensitive film, self-adhesive film and hot sealing film.
- Autoclavable.
- The tube wall of transparent 96-well PCR Plate is thin, allowing for good light transmission.
- White PCR 96-well plate is better for qPCR experiments.
- The maximum capacity of the 0.1mL tube is 150 µL, and that of a 0.2 mL tube is 250 µL.
- Certified DNase/RNase and Pyrogen Free.





PCR Tubes

Features:

- High quality polypropylene.
- Compatible with all major PCR and real-time PCR instruments on the market. Thin-wall design produces high thermal conductivity, allowing the reaction solution inside to reach the target temperature as quickly as possible.
- The cap has excellent sealing performance and is easy to open; the loss of reaction volume can be controlled within 5% when a PCR heated lid is applied.
- A maximum capacity of 250 µL.
- No human DNA, no DNase/RNase, no PCR inhibitors.

PCR 8-strip Tubes with Individual Cap Attached

Features:

- No human DNA, no DNase/RNase, no PCR inhibitors.
- White PCR 8-strip tubes can effectively prevent signal interference, increase signal strength, and improve experimental efficiency.

NEST®

Ordering Info

MJS BioLynx – Our Life Science Division

Cell & Molecular Biology

- Crystallography
- Immunohistochemistry
- Immunofluorescence
- Glycobiology
- Transfection & Electroporation
- 3D Cell Co-culture
- 3D Laboratory Services
- Density Gradient Media
- Cell Culture Media
- Cell Migration Assays
- DNA / RNA Exosome Purification
- PCR, qPCR & PCR Clean Up Reagents

Antibodies & Biomolecules

- Enzymes & Antibodies
- Nucleosomes & Histones (Epigenetics)
- Lipids and Fatty Acids
- Recombinant Proteins
- ELISAs
- Protein Expression Reagents
- Cytokines
- Bacterial Toxins

Labware & Equipment

- Pipette Tips
- Semi Automated Pipettors
- Freezer Racks
- Tubes
- Histology Labware
- Sample Collection and Management
- Sample Storage
- Microwell Plates
- Water Purification Systems
- Benchtop Equipment
- SPR
- Tube Labeling and Thawing
- qPCR

Microbiology

- Endotoxin Testing
- Yeast Growth Media
- Microscope Slides, Stains and Accessories
- Sterilization Products

+ More

- Detergents
- Protein Purification & Assay Reagents

1-888-593-5969 • biolynx.ca • tech@biolynx.ca