PROGRAMMING THE GENOME

At Mirus, our role in Programming the Genome is to provide scientists turnkey tools to ADD, DELETE or MODIFY any gene at will. We accomplish this through support of ANY DELIVERY METHOD capable of delivery of ANY NUCLEIC ACID into ANY CELL TYPE.

Highlighted in this brochure are our accessory and companion products, recommended for optimal results with our transfection portfolio that includes chemical transfection, electroporation and viral transduction to support relevant cell culture workflows with the best possible experimental results.

MOST RECENT BREAKTHROUGHS

2017: *Trans*IT®-VirusGEN®—Ideal for recombinant adeno-associated virus production

2016: *Trans*IT®-Lenti—Ideal for high titer recombinant lentivirus production

2015: CHOgro® Expression System—High titer transient transfection for suspension CHO cells

2014: *Trans*IT®-Insect—Optimal insect cell transfection for transgene & baculovirus expression

2013: *Trans*IT-X2® Dynamic Delivery System—Superior delivery of plasmid DNA and/or siRNA

2013: *Trans*IT®-BrCa Transfection Reagent—The first breast cancer cell transfection reagent

2010: *Trans*IT-PRO® Transfection Kit—Large-scale, high yield protein production

2009: *Trans*IT®-2020 Transfection Reagent—For hard to transfect cell types

2008: Ingenio® Electroporation Kits & Solution—Versatile, multi-platform electroporation solution

Order Online 24/7 (Credit Cards or Purchase Orders)
www.mirusbio.com

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Customer Service Phone: 888.530.0801 (toll free in the U.S.) or +1.608.441.2852; Fax: +1.608.441.2849

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Technical Support Email: techsupport@mirusbio.com
Technical Support Hotline: 844.MIRUSBIO (844.647.8724) or +1.608.441.2852

Accessories >>

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DNA & RNA LABELING

IN VIVO DELIVERY

COMPANION PRODUCTS

Cover Image. Tracking of Plasmid Localization and Expression. COS-7 cells were transfected with *Label*IT® Tracker™ Cy®5 labeled EYFP-nuc plasmid using the *Trans*IT®-LT1 Transfection Reagent in complete medium. The blue staining indicates the cellular localization of the Cy®5 labeled plasmid while the yellow signal is the expression of the yellow fluorescent protein. The image was acquired using a confocal microscope.

The *Label*IT® Tracker™ Cy®5 Kit can be found on page 6.

General Labeling

Label IT® NUCLEIC ACID LABELING KITS

- **Label Multiple Template Types**—Labels all DNA and RNA templates for a wide range of applications
- **Adjustable Labeling Density**—Achieve high sensitivity with optimally labeled DNA or RNA
- **Direct or Indirect, Sensitive Detection**—Choose the label that best matches your experimental and instrumental needs
- **Covalent Mechanism**—Permanent, non-destructive labeling of nucleic acid residues; labels do not impact hybridization performance
- **Easy to Use**—Simple, single step, one hour protocol

***Label* IT® Nucleic Acid Labeling Kits**

	LABEL	PRODUCT NO.	SIZE*
	CX-Rhodamine	MIR 3100	100 µg
		MIR 3125	25 µg
NEW	MFP488	MIR 7100	100 µg
		MIR 7125	25 µg
	Fluorescein	MIR 3200	100 µg
		MIR 3225	25 µg
	Digoxin	MIR 3300	100 µg
		MIR 3325	25 µg
	Biotin	MIR 3400	100 µg
		MIR 3425	25 µg
	Cy®3	MIR 3600	100 µg
		MIR 3625	25 µg
	Cy®5	MIR 3700	100 µg
		MIR 3725	25 µg
	DNP	MIR 3800	100 µg
		MIR 3825	25 µg
	TM-Rhodamine	MIR 4100	100 µg
		MIR 4125	25 µg

* Total amount of nucleic acid labeled.

To inquire about bulk pricing, please call +1.608.441.2852

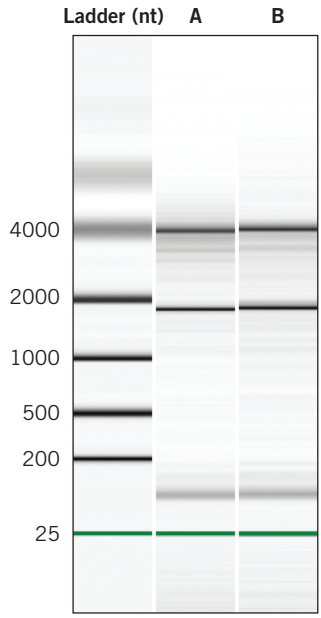
Description

The *Label* IT® Nucleic Acid Labeling Kits offer efficient, one-step, non-radioactive labeling of DNA or RNA using a single reagent. The non-enzymatic *Label* IT® Reagents covalently label nucleic acid residues in a non-destructive manner. The labeling reactions are rapid, easy to perform and can be scaled up or down without decreasing the labeling efficiency. The labeling density is controlled by adjusting the incubation time and/or the amount of labeling reagent per labeling reaction.

TABLE 1. Fluorophore Spectral Characteristics.

FLUOROPHORE	EXCITATION WAVELENGTH or λ_{MAX} (nm)	EMISSION WAVELENGTH (nm)
CX-Rhodamine	576	597
MFP488	501	523
Fluorescein	494	518
Cy®3	550	570
Cy®5	649	670
TM-Rhodamine	546	576

FIGURE 1. Non-destructive Direct Labeling of Nucleic Acid. Mouse total RNA was labeled with *Label* IT® Cy®3 (B, Mirus Bio) electrophoresed and analyzed alongside unlabeled total RNA (A) on an Agilent RNA 6000 Nano chip. RNA Integrity Number (RIN) is approximately 9.0 for both labeled and unlabeled samples.



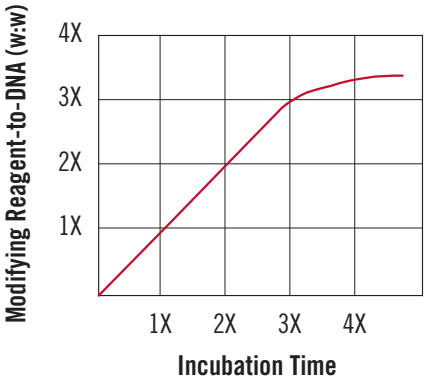
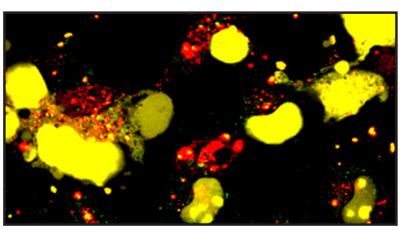


FIGURE 2. Flexible Labeling Reaction Conditions. Labeling density is easily controlled by adjusting the amount of *Label* IT® Reagent (Mirus Bio) in the reaction or by adjusting the incubation time of the labeling reaction at 37°C.

FIGURE 3. Fluorescence Tracking of Labeled Plasmid DNA Delivery and YFP Reporter Expression. Confocal fluorescence microscopy of COS-7 cells transfected with *Trans*IT®-LT1 (Mirus Bio) and EYFP-Nuc plasmid DNA labeled using *Label* IT® Nucleic Acid Labeling Kit, CX-Rhodamine (Mirus Bio). Image shows COS-7 cells 8 hours after transfection with rhodamine-labeled plasmid DNA (red) and EYFP expression (yellow).



Mirus

Imaging & Localization

Label IT® TRACKER™ INTRACELLULAR NUCLEIC ACID LOCALIZATION KITS

- **Superior Tracking and Expression**—Monitor both subcellular localization and reporter transgene expression following delivery of labeled plasmid DNA
- **Versatile Labeling**—Efficiently label and visualize the DNA of your choice
- **One-step Chemical Method**—Easily and precisely control the labeling reactions

***Label* IT® Tracker™ Intracellular Nucleic Acid Localization Kits**

LABEL	PRODUCT NO.	SIZE*
CX-Rhodamine	MIR 7022	50-200 µg
Fluorescein	MIR 7025	50-200 µg
Biotin	MIR 7024	50-200 µg
Cy®3	MIR 7020	50-200 µg
Cy®5	MIR 7021	50-200 µg
TM-Rhodamine	MIR 7023	50-200 µg

* Total amount of DNA labeled.

To inquire about bulk pricing, please call +1.608.441.2852

Description

The *Label* IT® Tracker™ Intracellular Nucleic Acid Localization Kits (Mirus Bio) provide a convenient approach to directly label and deliver plasmid DNA in an efficient and non-destructive manner for *in vitro* and *in vivo* tracking experiments. Both subcellular localization and reporter transgene expression can be monitored simultaneously following introduction of the labeled plasmid into cells.

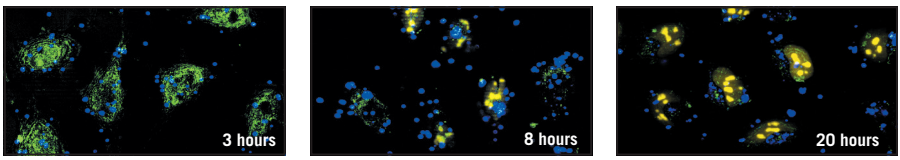


FIGURE 4. Indirect Tracking of Plasmid Localization and Expression. COS-7 cells were transfected with *Label* IT® Tracker™ Cy®5 (Mirus Bio) labeled pEYFP-nuc plasmid (blue) using the *Trans*IT®-LT1 Transfection Reagent (Mirus Bio) in complete medium. Images were acquired at 3, 8, and 20 hours post-transfection. The blue signal indicates the cellular localization of the Cy®5 labeled plasmid, the green signal indicates cellular autofluorescence, and the yellow signal is the expression of the nuclear yellow fluorescent protein (YFP) reporter. The images were acquired using a confocal microscope.

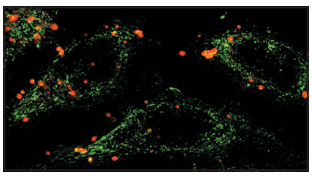


FIGURE 5. *Trans*IT®-LT1 Indirect Tracking of Plasmid Localization. COS-7 cells were transfected with *Label* IT® Tracker Biotin labeled pCI-luc plasmid using the *Trans*IT®-LT1 Transfection Reagent in complete medium. *Label* IT® Tracker™ Biotin (Mirus Bio) was detected with a streptavidin-Cy®3 (red) conjugate using a confocal microscope 24 hours post-transfection. The green signal indicates cellular autofluorescence.

Imaging & Localization

Label IT® siRNA TRACKER™ INTRACELLUAR LOCALIZATION KITS

- **Superior Tracking and Expression**—Monitor both subcellular localization and functionality of your siRNA following transfection
- **High Efficiency Labeling**—Optimal visualization of siRNA in cells
- **One-step Chemical Method**—Easily and precisely control the labeling density

***Label* IT® siRNA Tracker™ Intracellular Nucleic Acid Localization Kits**

LABEL	PRODUCT NO.	SIZE*
CX-Rhodamine	MIR 7214	50 µg
Fluorescein	MIR 7216	50 µg
Biotin	MIR 7217	50 µg
Cy®3	MIR 7212	50 µg
Cy®5	MIR 7213	50 µg
TM-Rhodamine	MIR 7215	50 µg

* Total amount ofsiRNA labeled.

To inquire about bulk pricing, please call +1.608.441.2852

Description

The *Label* IT® siRNA Tracker™ Intracellular Localization Kits (Mirus Bio) provide a straightforward approach to directly label any siRNA in an efficient and non-destructive manner for *in vitro* and *in vivo* tracking experiments. Intracellular localization and functional inhibition of target gene expression can be monitored following introduction of the labeled siRNA into mammalian cells.

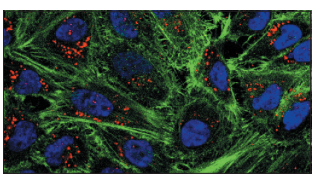


FIGURE 6. Visualization of *Label* IT® siRNA Tracker™ Labeled siRNA. HeLa cells were transfected with *Label* IT® siRNA Tracker™ Cy®3 (red, Mirus Bio) labeled siRNA using *Trans*IT-siQUEST® Transfection Reagent (Mirus Bio) in complete medium. Twenty-four hours post-transfection, cells were fixed and counterstained to locate the nuclei (blue) and actin (green). Image was acquired using a confocal microscope.

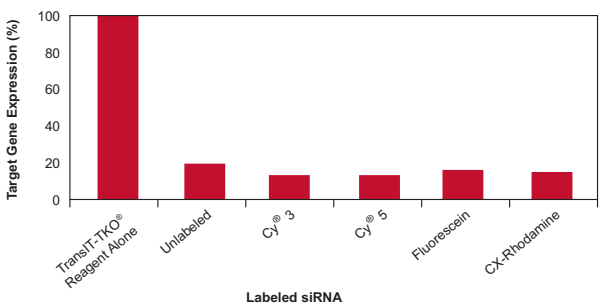


FIGURE 7. Labeling of siRNA with *Label* IT® siRNA Tracker Does Not Affect Functionality. *Trans*IT-TKO® Transfection Reagent (Mirus Bio) was used to transfect anti-firefly luciferase siRNA into CHO-luc cells that stably express firefly luciferase. The siRNA was either unlabeled or labeled with *Label* IT® siRNA Tracker Cy®3, Cy®5, Fluorescein, or CX-Rhodamine Reagents (Mirus Bio). Bars indicate the percent firefly luciferase expression 24 hours after delivery of 5 nM anti-firefly luciferase siRNA.

Mirus

Solid Surface Attachment & Labeling

Label IT® NUCLEIC ACID MODIFYING KITS, AMINE

- **Flexible**—Direct, covalent attachment of amine functional groups to any nucleic acid which can then be conjugated to dyes, protein, peptides or solid surfaces
- **One-step Chemical Method**—Easily and precisely control the density of nucleic acid modification

***Label* IT® Nucleic Acid Modifying Kits**

LABEL	PRODUCT NO.	SIZE*
Amine	MIR 3900	100 µg
	MIR 3925	25 µg

* Total amount of nucleic acid modified.

To inquire about bulk pricing, please call +1.608.441.2852

Description

Label IT® Nucleic Acid Modifying Kits, Amine (Mirus Bio) directly modifies DNA and RNA simply and reproducibly with NH_2 functional groups by non-enzymatic covalent attachment to nucleic acid residues. Precisely control the density of nucleic acid modification and thus determine the optimal modification level for a particular application. Modified nucleic acids are ideal for custom dye or peptide coupling and solid surface attachment. Potential downstream applications for this kit include conjugation of amine modified nucleic acids to activated carboxylic acid groups on proteins, labeling amine modified nucleic acids with NH_2-reactive dyes and attachment of amine modified nucleic acids to NH_2-reactive glass surfaces in microarray applications.

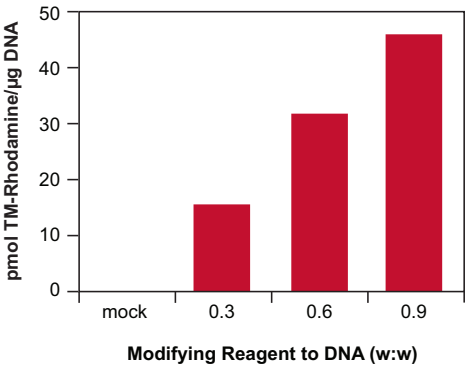


FIGURE 8. Assay for Amine Functional Groups on Modified DNA. Plasmid DNA (5.6 kb) was reacted with *Label* IT® Amine Reagent (Mirus Bio) at the indicated ratios (w:w) of Modifying Reagent to DNA and purified by ethanol precipitation. Five µg of the modified DNA was reacted with 10 mM NHS ester Tetramethyl-Rhodamine (in DMSO) and 100 mM $NaHCO_3$ (pH 8–8.5) for one hour at room temperature in the dark. The DNA was again ethanol precipitated, washed and assayed for labeling efficiency.

RNAi Controls

Label IT® RNAi DELIVERY CONTROLS

- **Chemically Labeled**—Using Mirus established covalent *Label* IT® technology
- **Sensitive**—Easily visualize transfected cells and assay for delivery efficiency using fluorescent microscopy
- **Inert and Compatible**—Does not target known mammalian genes or cause off-target effects; suitable for co-delivery experiments with functional siRNA
- **Ready-to-Use**—Supplied as prelabeled siRNA control 10 µM solution with 10X RNAi Dilution Buffer

LABEL	PRODUCT NO.	SIZE
Cy®3	MIR 7900	10 µg
	MIR 7901	100 µg
Fluorescein	MIR 7902	10 µg
	MIR 7903	100 µg

To inquire about bulk pricing, please call +1.608.441.2852

Description

Label IT® RNAi Delivery Controls (Mirus Bio) consist of either Cy®3 or fluorescein labeled siRNA duplex that has the same length, charge and configuration as standard siRNA. The sequence of the *Label* IT® RNAi duplex is inert and is not known to affect any cellular events. These controls can be co-transfected with a functional target gene-specific siRNA and are designed to facilitate assessment of siRNA delivery efficiency for *in vitro* and *in vivo* applications.

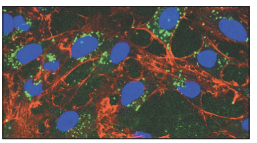


Figure 9. Ready-to-use *Label* IT® RNAi Delivery Controls are Labeled Using the Covalent *Label* IT® Technology. The *Label* IT® reagents* (Mirus Bio) are used to chemically attach labels to a nontargeting siRNA at optimized label/base pair ratio to generate *Label* IT® Plasmid Delivery Controls. For experimental details, please visit: www.mirusbio.com/products/accessories/label-it-rnai-delivery-controls

**Label IT® kits for a wide variety of applications are also available for purchase. Visit www.mirusbio.com/labeling for more information.*

Plasmid Controls

Label IT® PLASMID DELIVERY CONTROLS

- **Chemically Labeled**—Using Mirus established covalent *Label* IT® technology
- **Sensitive**—Directly track plasmid DNA delivery using fluorescent microscopy
- **Inert and Compatible**—Noncoding controls that are suitable for co-delivery experiments with other functional plasmids
- **Ready-to-Use**—Supplied as 0.5 mg/ml pre-labeled plasmid DNA control solution for *in vitro* and *in vivo* tracking studies

LABEL	PRODUCT NO.	SIZE
Cy®3	MIR 7904	10 µg
	MIR 7905	100 µg
Fluorescein	MIR 7906	10 µg
	MIR 7907	100 µg

To inquire about bulk pricing, please call +1.608.441.2852

Description

Label IT® Plasmid Delivery Controls (Mirus Bio) consist of either Cy®3 or fluorescein labeled 2.7 kb noncoding plasmid for direct assessment of delivery efficiency in mammalian cells.

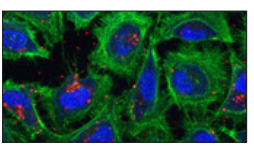


Figure 10. Ready-to-use *Label* IT® Plasmid Delivery Controls are Labeled Using the Covalent *Label* IT® Technology. The *Label* IT® reagents*(Mirus Bio) are used to chemically attach labels to a noncoding plasmid at optimized label/base pair ratio to generate *Label* IT® Plasmid Delivery Controls. For experimental details, please visit: www.mirusbio.com/products/accessories/label-it-plasmid-delivery-controls

In Vivo Delivery

*Trans*IT®-QR DELIVERY SOLUTION & STARTER KIT

- **Naked Nucleic Acid Delivery**—Achieve higher levels of gene expression than compared to polylysine and PEI methods
- **Versatile Platform**—Suitable for DNA and/or siRNA delivery via hydrodynamic high pressure tail vein injection to the mouse strain of your choice
- **Low Toxicity**—Minimized loss of cardiac output compared to saline injections, which allows for quick recovery (within minutes) of the mouse post-injection

Trans*IT®-QR Starter Kit

PRODUCT NO.	QUANTITY
MIR 5210	10 Injections

Trans*IT®-QR Delivery Solution

PRODUCT NO.	QUANTITY
MIR 5240	40 Injections

* **RNAse/DNAse Detection Assay:** The solution has been tested to verify that it contains <0.5 pg of RNAse and <10 pg of DNAse activity. **Endotoxin Assay:** The solution has been tested to verify that it contains <0.125 EU/ml of endotoxin.

To inquire about bulk pricing, please call +1.608.441.2852

Description

A non-toxic, "Quick Recovery" (QR) *in vivo* delivery solution for the delivery of DNA or siRNA to the liver of laboratory mice using hydrodynamic tail vein injection. The starter kit contains the *Trans*IT-QR® Delivery Solution (Mirus Bio), 10 syringes, needles and alchohol swabs and a modified conical plastic tube to restrain the mouse while tail vein injection is performed.

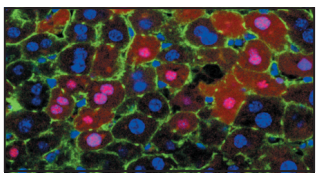


FIGURE 11. *Trans*IT®-QR Delivery Solution Effectively Delivers the *Label* IT® Cy®3 RNAi Delivery Control to Hepatocytes. The *Trans*IT®-QR Delivery Solution (Mirus Bio) was used to deliver 25 µg of *Label* IT® Cy®3 RNAi Delivery Control (red, Mirus Bio) to a mouse liver using hydrodynamic tail vein injection. Forty-five minutes post-injection, the liver was harvested, sections were fixed and counterstained for nuclei (blue) and actin (green). The image was acquired using a confocal microscope.

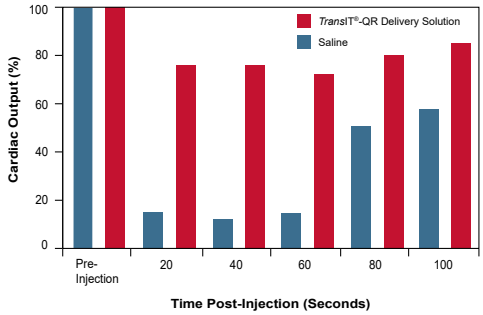


FIGURE 12. *Trans*IT®-QR Delivery Solution Minimizes the Loss of Cardiac Output Compared to Injections Performed Using Normal Saline. Mice were anesthetized, connected to an arterial blood pressure monitor and injected with either *Trans*IT®-QR (red, Mirus Bio) or normal saline (blue) using the hydrodynamic tail vein injection procedure. The relative cardiac output was estimated by multiplying the heart rate by the pulse pressure (difference between systolic and diastolic pressures) and scaled to the pre-injection cardiac output.

In Vivo Delivery

*Trans*IT®-EE DELIVERY SOLUTION & STARTER KIT

- **Efficient Gene Expression**—Produces 2–3X higher levels of gene expression compared to *Trans*IT®-QR Delivery Solution
- **Versatile Platform**—Suitable for DNA via hydrodynamic tail vein injection to the mouse strain of your choice

Trans*IT®-EE Starter Kit

PRODUCT NO.	QUANTITY
MIR 5310	10 Injections

Trans*IT®-EE Delivery Solution

PRODUCT NO.	QUANTITY
MIR 5340	40 Injections

* **RNAse/DNAse Detection Assay:** The solution has been tested to verify that it contains <0.5 pg of RNAse and <10 pg of DNAse activity. **Endotoxin Assay:** The solution has been tested to verify that it contains <0.125 EU/ml of endotoxin.

To inquire about bulk pricing, please call +1.608.441.2852

Description

An "Enhanced Expression" (EE) *in vivo* delivery solution for the delivery of DNA to the livers of laboratory mice using hydrodynamic tail vein injection. The starter kit contains the *Trans*IT®-EE Delivery Solution (Mirus Bio), 10 syringes, needles and alchohol swabs and a modified conical plastic tube to restrain the mouse while tail vein injection is performed.

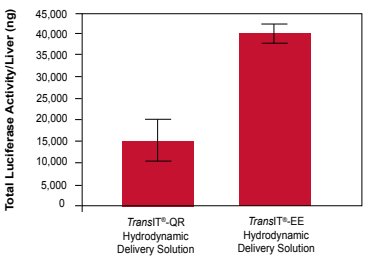


FIGURE 13. *Trans*IT®-EE Delivery Solution Provides Enhanced Expression of a Reporter Gene in the Liver. *Trans*IT®-QR or *Trans*IT®-EE Delivery Solutions (Mirus Bio) were used to deliver 10 µg of a CMV promoter-driven luciferase expression vector to mice using hydrodynamic tail vein injections. Twenty-four hours post-injection, livers were harvested, homogenized and assayed for luciferase activity.

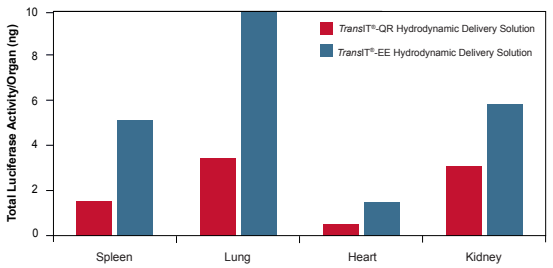


FIGURE 14. *Trans*IT®-EE Delivery Solution Provides Enhanced Expression of a Reporter Gene in Several Organs. *Trans*IT®-QR or *Trans*IT®-EE Delivery Solutions (Mirus Bio) were used to deliver 10 µg of a CMV promoter-driven luciferase expression vector to mice using hydrodynamic tail vein injections. Twenty-four hours post-injection organs were harvested, homogenized and assayed for luciferase activity.

NOTE: *Following gene delivery via a tail vein injection, the highest level of transgene expression is found in the liver, with reduced levels of expression found in the spleen, lung, heart and kidneys.*

pLIVE® *IN VIVO* EXPRESSION & REPORTER VECTORS

- **Sustained Gene Expression**—Achieve high level gene expression in the mouse liver for at least one year after delivery
- **Versatile Platform**—Available with positive control vectors expressing either lacZ or secreted alkaline phosphatase (SEAP)

pLIVE® Vector

PRODUCT NO.	QUANTITY
MIR 5420	20 µg

pLIVE® Vector/lacZ Control Vector Kit

PRODUCT NO.	QUANTITY
MIR 5520	20 µg of Each

pLIVE® Vector/SEAP Control Vector Kit

PRODUCT NO.	QUANTITY
MIR 5620	20 µg of Each

pLIVE® Vector Complete System

PRODUCT NO.	QUANTITY
MIR 5320	20 µg of Each

To inquire about bulk pricing, please call +1.608.441.2852

Description

The pLIVE® (Liver *In Vivo* Expression, Mirus Bio) Vectors are designed for high level, prolonged expression of transgenes using methods such as hydrodynamic tail vein injection. These vectors utilize a chimeric promoter composed of the minimal mouse albumin promoter and the mouse alpha feto-protein enhancer II. Two introns have been engineered into the expression vector and are present in the primary transcript produced from the liver-specific chimeric promoter, which increases expression of the delivered transgene. Downstream of the first intron is a multiple cloning site (MCS) with eight unique restriction sites allowing for simple insertion of the gene of interest.

Choose the pLIVE® Vector (Mirus Bio) for cloning and expression of your gene of interest or the reporter vectors, pLIVE®-lacZ and pLIVE®-SEAP (Mirus Bio), for use as positive controls.

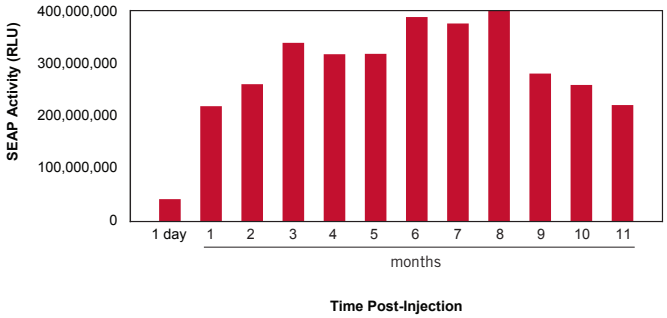


FIGURE 15. Long-Term Expression of Human Placental Secreted Alkaline Phosphatase (SEAP) in Mice After Hydrodynamic Delivery of the pLIVE®-SEAP Vector. The pLIVE®-SEAP Vector (Mirus Bio) was delivered to ten C57Bl/6 mice using the hydrodynamic tail vein injection procedure with the *Trans*IT®-QR Delivery Solution (Mirus Bio). At the indicated times post-injection, serum from each mouse was collected and the level of SEAP activity measured at each time point is depicted.

Endotoxin Removal

MiraCLEAN® ENDOTOXIN REMOVAL KIT

- **Efficiently Removes Endotoxin from Plasmid DNA Samples**—Aids in the safety and efficiency of gene delivery research
- **Compatible with *In Vitro* and *In Vivo* Applications**—Removes harmful endotoxin that can decrease transfection efficiencies *in vitro* and induce inflammatory reactions *in vivo*
- **Easy-to-Use**—Simple separation protocol with colored extraction reagent allows quick visualization of phase separation

PRODUCT NO.	QUANTITY*
MIR 5910	10 mg DNA Each
MIR 5900	100 mg DNA Each

* Amount of DNA purified with each kit.

To inquire about bulk pricing, please call +1.608.441.2852

Description

The MiraCLEAN® Endotoxin Removal Kit (Mirus Bio) is a rapid and efficient kit for the removal of endotoxins (bacterial lipopolysaccharides) from DNA before transfection or injection into an animal host. The presence of endotoxins in a DNA sample can decrease transfection efficiency and induce cell death or cause endotoxic shock and death in animals.

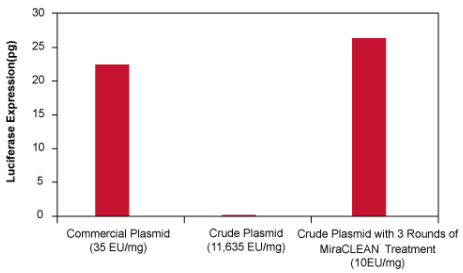


FIGURE 16. Endotoxin Removal from Plasmid DNA Improves Transfection Efficiency. COS-7 cells were transfected with the indicated plasmid DNA using *Trans*IT®-LT1 Transfection Reagent (Mirus Bio). Cells were harvested 24 hours post-transfection and assayed for luciferase activity.

SELECTION ANTIBIOTICS

- **Easy-to-Use**—Sterile filtered ready-to-use stock solutions for stable cell line generation
- **High Purity**—Greater than 90% purity determined by HPLC
- **High Potency**—In combination with high purity ensures better selection at optimal concentrations

Description

Stable cell line generation allows for sustained expression of an exogenous gene which is commonly enriched and maintained through the use of selection antibiotics such as G418, Hygromycin B, Puromycin, etc. Resistance to these antibiotics is conferred through the expression of a positive selection gene: neomycin resistance (neo), hygromycin resistance (hph) and puromycin-N-acetyl-transferase (pac) genes, respectively. Selection markers can be delivered using the same plasmid (*in cis*) that contains the gene of interest, or on a separate plasmid (*in trans*) that needs to be co-transfected with the plasmid containing the gene of interest.

G418 Sulfate Solution

PRODUCT NO.	QUANTITY
MIR 5920	10 ml

Hygromycin B Solution

PRODUCT NO.	QUANTITY
MIR 5930	20 ml

Puromycin Dihydrochloride Solution

PRODUCT NO.	QUANTITY
MIR 5940	5 x 2 ml

To inquire about bulk pricing, please call +1.608.441.2852

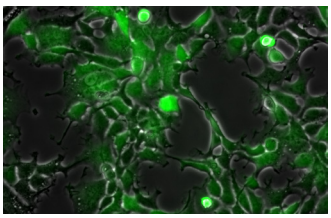


FIGURE 17. Stable Cell Line Generation and Characterization. HEK 293 cells stably expressing EGFP were generated through transient transfection of EGFP and neomycin plasmid DNA vectors. Monoclonal populations were selected by limiting serial dilution and gene stability was verified for at least ten passages. Cells were assessed by fluorescence and phase microscopy.

CELL CULTURE ANTIBIOTICS

- **High Potency**—Keep your valuable cultures contamination-free
- **Easy-to-Use**—Provided at 100x concentration for convenient addition to liquid culture medium
- **Broad Spectrum**—Effective against a wide range of common microbial contaminants

Penicillin-Streptomycin Solution

PRODUCT NO.	QUANTITY
MIR 5960	1 x 100 ml

Antibiotic-Antimycotic Solution

PRODUCT NO.	QUANTITY
MIR 5970	1 x 100 ml

To inquire about bulk pricing, please call +1.608.441.2852

Description

Penicillin-Streptomycin Solution (100X) and Antibiotic-Antimycotic Solution (100X) can be used preventatively to safeguard cell cultures against microbial contamination. Penicillin-Streptomycin Solution (100X) is composed of penicillin (10,000 units/ml) and streptomycin (10,000 µg/ml) and is effective against gram-positive and gram-negative bacteria. Antibiotic-Antimycotic Solution (100X) is composed of penicillin (10,000 units/ml), streptomycin (10,000 µg/ml), and amphotericin B (25 µg/ml) and is effective against gram-positive and gram-negative bacteria as well as yeast and other fungi.

Baculovirus Expression Systems

*flash*BAC™ BACULOVIRUS EXPRESSION SYSTEM

- **Ease of Use**—Single-step baculovirus generation in insect cells; no plaque purification required
- **Compatibility**—Ready to use with most transfer vectors, including BacMam and optimized with *Trans*IT®-Insect
- **More Protein**—High recombinant protein yields

***flash*BAC™**

PRODUCT NO.	QUANTITY
MIR 6115	5 RXN
MIR 6120	24 RXN

***flash*BAC™ ULTRA**

PRODUCT NO.	QUANTITY
MIR 6135	5 RXN
MIR 6140	24 RXN

To inquire about bulk pricing, please call +1.608.441.2852

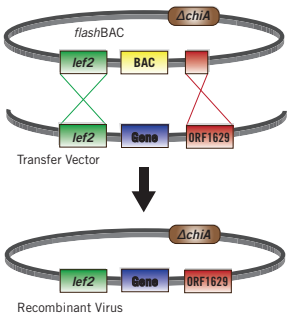


FIGURE 18. Homologous recombination in insect cells inserts the gene of interest and restores the function of an essential baculovirus gene leading to replication of recombinant virus. For experimental details, please visit www.mirusbio.com/*flash*BAC.

Insect Cell & BacMam Transfer Plasmids

pOET INSECT & BacMam TRANSFER PLASMIDS

- **Ease-of-Use**—Simple construction of recombinant virus when used with the *flash*BAC™ Baculovirus Expression System and *Trans*IT®-Insect Transfection Reagent
- **Versatility**—Transfer plasmids are available for insect or mammalian cell expression
- **Compatibility**—Can be used with any baculovirus expression system that relies on recombination in insect cells at the polyhedrin locus

pOET1 Transfer Plasmid

PRODUCT NO.	QUANTITY
MIR 6150	20 µl (500 ng/µl)

pOET1C_6xHis Transfer Plasmid

PRODUCT NO.	QUANTITY
MIR 6151	20 µl (500 ng/µl)

pOET6 BacMam Transfer Plasmid

PRODUCT NO.	QUANTITY
MIR 6152	20 µl (500 ng/µl)

To inquire about bulk pricing, please call +1.608.441.2852

Description

The pOET Transfer Plasmids (Mirus Bio) are ideal for high yield protein production in insect or mammalian cells.

PRODUCT LIST

GENERAL LABELING

Label IT® Nucleic Acid Labeling Kits

PRODUCT	PRODUCT NO.	QUANTITY
CX-Rhodamine	MIR 3100	100 µg
	MIR 3125	25 µg
NEW MFP488	MIR 7100	100 µg
	MIR 7125	25 µg
Fluorescein	MIR 3200	100 µg
	MIR 3225	25 µg
Digoxin	MIR 3300	100 µg
	MIR 3325	25 µg
Biotin	MIR 3400	100 µg
	MIR 3425	25 µg
Cy®3	MIR 3600	100 µg
	MIR 3625	25 µg
Cy®5	MIR 3700	100 µg
	MIR 3725	25 µg
DNP	MIR 3800	100 µg
	MIR 3825	25 µg
TM-Rhodamine	MIR 4100	100 µg
	MIR 4125	25 µg

IMAGING & LOCALIZATION

Label IT® Tracker™ Intracellular Nucleic Acid Localization Kits

LABEL	PRODUCT NO.	SIZE*
CX-Rhodamine	MIR 7022	50-200 µg
Fluorescein	MIR 7025	50-200 µg
Biotin	MIR 7024	50-200 µg
Cy®3	MIR 7020	50-200 µg
Cy®5	MIR 7021	50-200 µg
TM-Rhodamine	MIR 7023	50-200 µg

* Total amount of DNA labeled.

Label IT® siRNA Tracker™ Intracellular Nucleic Acid Localization Kits

LABEL	PRODUCT NO.	SIZE*
CX-Rhodamine	MIR 7214	50 µg
Fluorescein	MIR 7216	50 µg
Biotin	MIR 7217	50 µg
Cy®3	MIR 7212	50 µg
Cy®5	MIR 7213	50 µg
TM-Rhodamine	MIR 7215	50 µg

* Total amount of siRNA labeled.

SOLID SURFACE ATTACHMENT & LABELING

Label IT® Nucleic Acid Modifying Kits

LABEL	PRODUCT NO.	SIZE**
Amine	MIR 3900	100 µg
	MIR 3925	25 µg

** Total amount of nucleic acid modified.

CONTROLS

Label IT® RNAi Delivery Controls

PRODUCT	PRODUCT NO.	QUANTITY
Cy®3	MIR 7900	10 µg
	MIR 7901	100 µg
Fluorescein	MIR 7902	10 µg
	MIR 7903	100 µg

Label IT® Plasmid Delivery Controls

PRODUCT	PRODUCT NO.	QUANTITY
Cy®3	MIR 7904	10 µg
	MIR 7905	100 µg
Fluorescein	MIR 7906	10 µg
	MIR 7907	100 µg

NUCLEIC ACID *IN VIVO* DELIVERY

*Trans*IT®-QR Starter Kit

PRODUCT NO.	QUANTITY
MIR 5210	10 Injections

*Trans*IT®-QR Delivery Solution

PRODUCT NO.	QUANTITY
MIR 5240	40 Injections

*Trans*IT®-EE Starter Kit

PRODUCT NO.	QUANTITY
MIR 5310	10 Injections

*Trans*IT®-EE Delivery Solution

PRODUCT NO.	QUANTITY
MIR 5340	40 Injections

EXPRESSION & REPORTER VECTORS

PRODUCT	PRODUCT NO.	QUANTITY
pLIVE® Vector	MIR 5420	20 µg
pLIVE® Vector/lacZ Control Vector Kit	MIR 5520	20 µg of Each
pLIVE® Vector/SEAP Control Vector Kit	MIR 5620	20 µg of Each
pLIVE® Vector Complete System	MIR 5320	20 µg of Each

ENDOTOXIN REMOVAL

PRODUCT	PRODUCT NO.	QUANTITY†
MiraCLEAN® Endotoxin Removal Kit	MIR 5910	10 mg DNA Each
	MIR 5900	100 mg DNA Each

†Amount of DNA purified with each kit.

ANTIBIOTICS

PRODUCT	PRODUCT NO.	QUANTITY
G418 Sulfate Solution	MIR 5920	10 ml
Hygromycin B Solution	MIR 5930	20 ml
Puromycin Dihydrochloride Solution	MIR 5940	5 x 2 ml
Penicillin-Streptomycin Solution	MIR 5960	1 x 100 ml
Antibiotic-Antimycotic Solution	MIR 5970	1 x 100 ml

BACULOVIRUS SYSTEMS & TRANSFER PLASMIDS

PRODUCT	PRODUCT NO.	QUANTITY
*flash*BAC™	MIR 6115	5 RXN
	MIR 6120	24 RXN
*flash*BAC™ ULTRA	MIR 6135	5 RXN
	MIR 6140	24 RXN
pOET1 Transfer Plasmid	MIR 6150	20 µl (500 ng/µl)
pOET1C_6xHis Transfer Plasmid	MIR 6151	20 µl (500 ng/µl)
pOET6 BacMam Transfer Plasmid	MIR 6152	20 µl (500 ng/µl)

To inquire about bulk pricing, please call +1.608.441.2852.