

Histology, Hematology and Cytology



Critical tools for life science research

- Cell, Tissue and Sample Preparation
- Biological Stains and Dyes
- Products for Blood and Tissue Components
- Second Step and Detection Reagents
- Cellular Analysis Kits
- Cryopreservation Reagents

Cell, Tissue and Sample Preparation

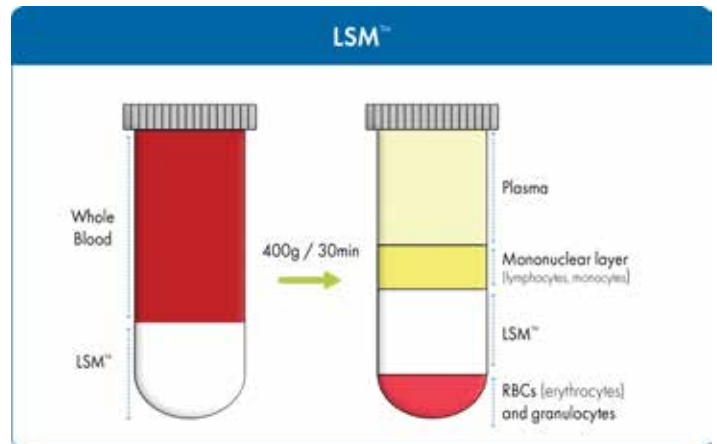
Isolation of Cells from Blood and Plasma

Blood is composed of several cell types that need to be routinely isolated, such as monocytes, lymphocytes, and polymorphonuclear leukocytes. Isolation of mononuclear and polymorphonuclear cells from blood serves as the starting point for a wide spectrum of immunology studies. One challenge for many researchers is how to specifically isolate mononuclear and polymorphonuclear cells from blood with high yield and cell viability. MP Biomedicals offers three products for the isolation of mononuclear and polymorphonuclear cells from human peripheral blood, bone marrow, and umbilical cord blood. Lymphocyte Separation Medium (LSM™), LymphoSep™, and Mono-Poly™ Resolving Medium have been used for these applications by researchers worldwide.

Mononuclear Cell Isolation for Research Use

Lymphocyte Separation Medium (LSM™) is a legendary tool to separate lymphocytes from human peripheral blood as well as bone marrow, and umbilical cord blood. As proven by more than 2,200 scientific publications, it ensures:

- Maximum yield of monocytes
- > 96% cell viability of lymphocytes
- Easy one-step centrifugation
- Low endotoxin levels
- Sterility



Lymphocyte Separation for *in vitro* Diagnostics

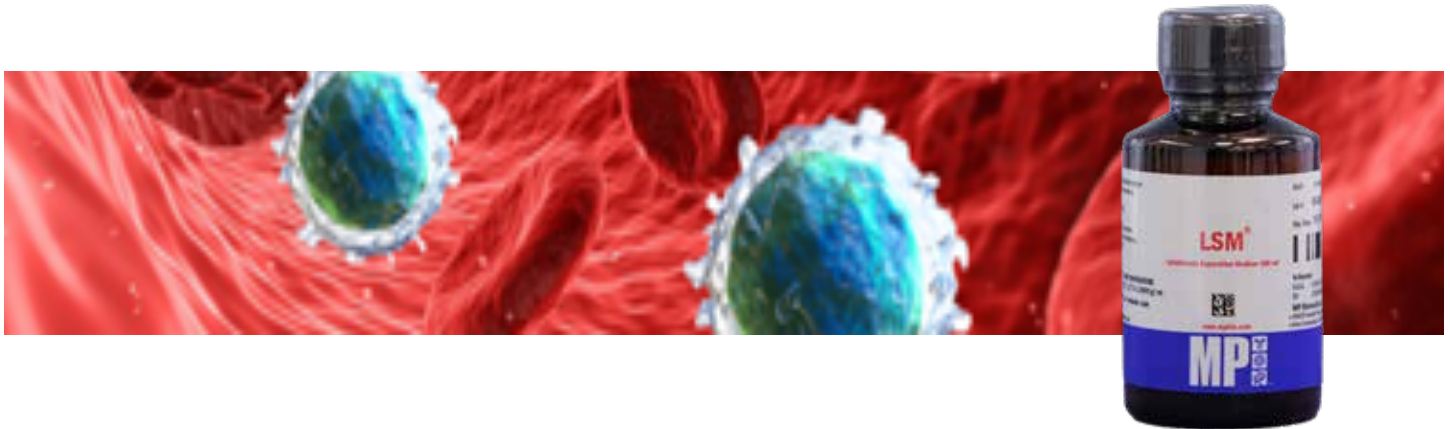
LymphoSep® lymphocyte separation medium from MP Bio is based on the original Bøyum formulation with a density of 1.077 g/mL. It is validated for *in vitro* diagnostic (IVD) usage and has designation as an FDA class I exempt medical device for lymphocyte separation (21 CFR 864.8500). It offers similar product features to our Lymphocyte Separation Medium (LSM™), but it is specifically designed for *in vitro* diagnostics use.

Mononuclear and Polymorphonuclear Isolation in One Step

When it is necessary to separate both mononuclear and polymorphonuclear cells from blood, Mono-Poly™ Resolving Medium (Mono-Poly™, M-PRM) may be used. Differential migration during centrifugation allows for the resolution of both mononuclear and polymorphonuclear leukocytes into two distinct bands that are relatively free of erythrocytes. This can be performed in a one-step centrifugation process.

Isolation of Cells from Blood and Plasma

Description	Cat. No.	Format	Size
LSM™ Lymphocyte Separation Medium	0850494X	Solution	100 mL
	0850494	Solution	5 x 100 mL
LymphoSep™ Lymphocyte Separation Medium	091692249	Solution	100 mL
	091692254	Solution	500 mL
Mony-Poly™ Resolving Medium	091698049	Solution	100 mL
Histopaque® 1077	0219083780	Solution	100 mL
Percoll®	0219536980	Solution	100 mL
	0219536990	Solution	500 mL



Cell Detachment

Accutase™ Cell Detachment Solution

Accutase solution is a unique trypsin replacement that exhibits both protease and collagenolytic activities while maintaining most cell surface antigens. Accutase cell detachment solution is effective in detaching primary fibroblasts, endothelial cells, neurons, tumor cell lines, and insect cells. It performs exceptionally well in detaching cells for analysis of cell surface markers, virus growth assay, and flow cytometry as well as bioreactor scale-up.

Description	Cat. No.	Format	Size
Accutase™ Proteolytic cell detachment	091000449	Solution	100 mL
Trypsin-EDTA	091689149	Solution	100 mL
Trypsin-EDTA in HBSS	091689649	Solution	100 mL

Cell, Tissue and Sample Preparation

Preparing Cells, Tissues and Samples for Analysis

Stock up on basic cell and tissue-prep labware, fixatives and lab stock room items for every day use, as well as innovative products offered exclusively by MP Bio, including:

Immuno-Fluore™ Mounting Medium – inhibits the fading of fluorescence under the influence of ultraviolet light.

Description	Cat. No.	Format	Size
Coplin Staining Jar	0217006201	Labware	1 Jar
Immuno-Fluore™ Mounting Medium	08622701	Solution	25 mL
IHC-REVEALER	08981021.1	Solution	1 mL
Enzymatic epitope retrieval for Immunohistochemistry	08981021	Solution	10 mL
Formaldehyde, ACS	0219404780	Solution	100 mL
	0219404790	Solution	500 mL
Paraformaldehyde (16% w/v), methanol-free	0219998320	Solution	2 x 20 mL
	0219998380	Solution	10 x 10 mL
Xylene - Histological Grade	0215869204	Solution	4 L

MP Bio Multitest Slides – suitable for many applications including immunofluorescence, cell culture, slide agglutination tests and histology. These high quality glass slides have a unique PTFE coating which offers several important advantages:

- Self draining surface
- Resistant to common organic solvents and fixatives
- Resistant to direct heat
- Sterilizable



The uncoated areas have a total wettable surface, allowing liquid to spread evenly over the area of each well. For cell attachment and growth, the slides require only a simple washing in deionized water or detergent followed by sterilization.

Description	Cat. No.	Format	Size
Multitest Slide (8-well, 6 mm)	096040805	Labware	100/box
Multitest Slide (8-well, 6 mm) - Premium	096040805E	Labware	100/box
Multitest Slide (10-well, 8 mm)	096041805	Labware	100/box
Multitest Slide (10-well, 8 mm) - Premium	096041805E	Labware	100/box
Multitest Slide (12-well, 7 mm)	096041205	Labware	100/box
Multitest Slide (12-well, 7 mm) - Premium	096041205E	Labware	100/box
Multitest Slide (15-well, 4 mm)	096041505	Labware	100/box

Biological Stains and Dyes

Choose from a complete portfolio of stains, dyes and biochemicals critical for identification of whole tissues, cells and organelles, proteins and nucleic acids. These reagents are prepared to meet your laboratory standards for high quality.

As a global leader and trusted manufacturer of biochemicals for Life Science, MP Bio can offer these products at competitive, value-added pricing and package sizes, in support of your needs and research budget.

- Gram Staining – Fuchsins and Safranin
- Haematoxylin and Eosin (H & E) Dyes

Description	Cat. No.	Format	Size
Basic Fuchsin	0215042305	Powder	5 g
	0215042325	Powder	25 g
Carbol Fuchsin	0215493305	Powder	5 g
	0215493310	Powder	10 g
	0215493325	Powder	25 g
New Fuchsin	0215582325	Powder	25 g
	0215582380	Powder	100 g
Hoechst Stain	093030145	Solution	10 mL
Hematoxylin	0210192205	Powder	5 g
	0210192225	Powder	25 g
	0210192280	Powder	100 g

7X™ Ready-to-use Detergent

Ideal to clean labware, benchtops and instruments used with stains and dyes.

- Effective, water-soluble and eco-friendly cleaning solutions
- Does not etch to glass or plastic labware
- Nontoxic for tissue and cell cultures
- Eliminates interfering fluorescence residues for flow cytometry
- No need for pH adjustment
- Easy and safe to use, no gloves required
- Concentrated – 1 gallon can make up to 100 gallons of cleaning solution



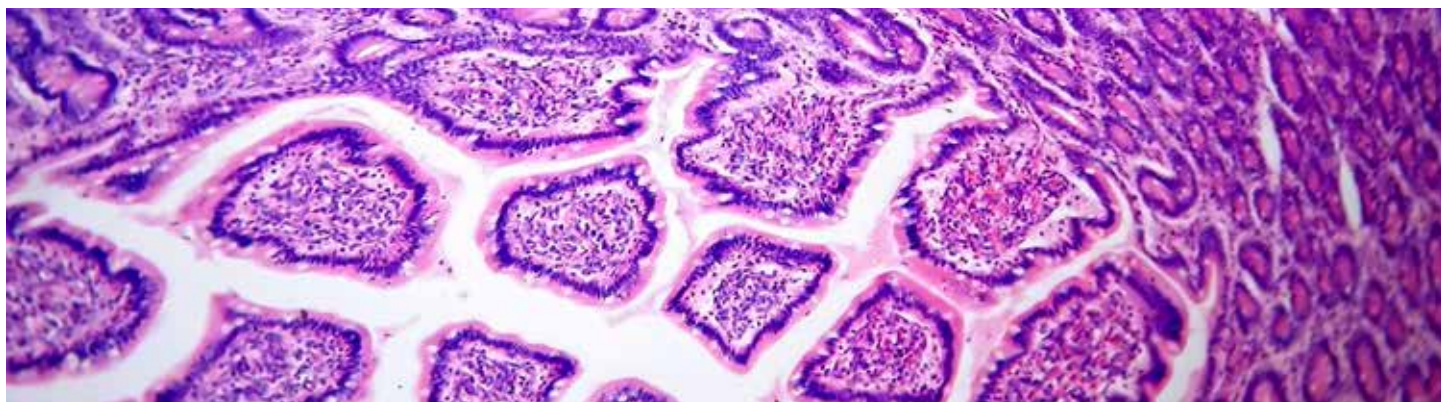
Description	Size	Cat. No.
7X Cleaning Solution	1 gal	097667093
7X Cleaning Solution	4 x 1 gal	097667094
7X-O-Matic Solution, Machine Wash	4 x 1 gal	097667494
ES 7X Cleaning Solution, Environment-Safe	4 x 1 gal	097667194
ES 7X Cleaning Solution, Environment-Safe	1 gal	097667193

Trusted for over 50 years, clean up has never been so easy!

Biological Stains and Dyes

- Ziehl-Neelson Staining – Carbol Fuchsin, Methylene blue and Malachite Green
- Viability Dyes – Propidium Iodide (PI), 7-AAD and DAPI

Description	Cat. No.	Format	Size
Indigo Carmine	0215263805	Powder	5 g
	0215263825	Powder	25 g
	0215263880	Powder	100 g
Leishman's Stain	0215518325	Powder	25 g
	0215518380	Powder	100 g
Light Green SF Yellowish	0215264125	Powder	25 g
Malachite Green	0215264225	Powder	25 g
	0215264280	Powder	100 g
Methyl Blue	0215264305	Powder	5 g
	0215264325	Powder	25 g
Methylene Blue	04800663	Powder	25 g
Methyl Green	04806404	Powder	5 g
Neutral Red	091691149	Solution	100 mL
Propidium Iodide (PI)	0219545810	Powder	10 mg
	0219545825	Powder	25 mg
Safranin O	0215204005	Powder	5 g
	0215204025	Powder	25 g
	0215204080	Powder	100 g
Toluidine Blue O	0215264925	Powder	25 g
Trypan Blue Solution	091691049	Solution	100 mL
4',6-Diamidino-2-Phenylindole Dihydrochloride (DAPI)	0215757401	Powder	1 mg
	0215757405	Powder	5 mg
	0215757410	Powder	10 mg
7-Aminoactinomycin D (7-AAD)	0219585601	Powder	1 mg

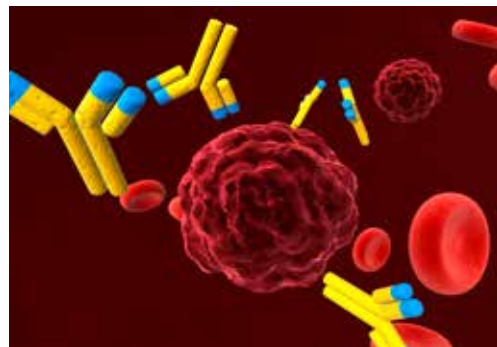


Products for Blood and Tissue Components

Antibodies for Basic Markers

A complete approach to analysis of cells and tissues includes definition of overall structure and organization, as well as the ability to identify and monitor specific target antigens and their localization.

Antibodies featured here are some of the most widely utilized for immunohistochemistry and immunocytochemistry, and common blood antigens. Choose from a variety of targets to incorporate into your workflow, in parallel with our stains and dyes, for a complete look at your system of interest.



Description	Cat. No.	Format	Size
Mouse Anti-Human Actin (Clone C4)	08691001	Ascites	0.1 mL
	08691002	Ascites	0.2 mL
Goat Anti-Human Albumin FITC	0855162	Purified Polyclonal	2 mL
Mouse Anti-Human Apolipoprotein A	0859408	4F3	500 mg
Goat Anti-Human Complement C1q FITC	0855166	Purified Polyclonal	2 mL
Goat Anti-Human Complement C3 FITC	0855167	Purified Polyclonal	2 mL
Goat Anti-Human Complement C7	0855142	Polyclonal	2 mL
Goat Anti-Human Fibronectin	0855125	Polyclonal	2 mL
Goat Anti-Human Fibrinogen FITC	0855169	Purified Polyclonal	2 mL
Goat Anti-Rat Fibrinogen FITC	0855752	Purified Polyclonal	2 mL
Rabbit Anti-Sheep Red Blood Cells	0855806	Purified Polyclonal	2 mL

Purified Proteins

Choose quality recombinant proteins to go with your antibodies, dyes and stains. Our purified albumin products, sera and proteins are ideal blocking agents for histochemistry, as well as for stabilizers and additives for immunoassays.

Description	Cat. No.	Format	Size
Gamma Globulin - Human	08823101	Purified	1 g
	08823102	Purified	10 g
Human Serum - Normal, pooled	092930149	Serum	100 mL
Human Serum, Type AB	092931949	Serum	100 mL
Human Apolipoprotein E2 Recombinant Protein	0859307	Recombinant	50 mg
Human Apolipoprotein E4 Recombinant Protein	0859310	Recombinant	50 mg
Human Albumin	0210371250	Solution	50 mL
Collagen - Calf Skin	0215002610	Purified	10 mg
	0215002680	Purified	100 mg
	0215002683	Purified	250 mg
Collagenase Type I	02195109.3	Purified	25 mg
Collagenase Type IV	0219511025	Purified	25 mg
Ovalbumin - Chicken	08950512	Purified	5 g

Second Step and Detection Reagents

MP Bio provides over 6000 antibodies, purified immunoglobulins and proteins for life science research. With our in-house manufacturing capabilities, we are able to offer unique second-step reagents, companion substrates and solutions for your complete workflow. Where appropriate, our second step reagents are presented in a lyophilized format for optimal quality and consistency, as well as being:

- **Validated** – know your reagent specificity and cross-reactivity for reliable results
- **Versatile** – choose from multiple formats for microscopy, flow cytometry, immunoassays, gene expression, protein expression and purification

Sera, Substrates and Support Reagents

Description	Cat. No.	Format	Size
Mouse Immunoglobulin Reference Serum	08649011	Serum	1 mL
Avidin - HRP	0855898	Solution	5 mg
Streptavidin - FITC	08623411	Solution	1 mg
BCIP/NBT	08980621	Solution	100 mL
BCIP/NBT Plus - for Immunoblotting & IHC	08980771	Solution	100 mL
	08980772	Solution	500 mL
Antibody Diluent	08980641	Solution	125 mL
PROTEXIDASE™ - Peroxidase Protective Buffer	08980631	Solution	500 mL
Fluorescent Brightener 28	0215806701	Powder	1 g
	0215806705	Powder	5 g
	0215806725	Powder	25 g



Second Step and Detection Reagents

Polyclonal Antibodies

Description	Cat. No.	Format	Size
Goat F(ab') ₂ Anti-Human IgD FITC	0855179	F(ab') ₂	2 mL
Sheep Anti-Human IgG3	08643121	Polyclonal	1 mL
Sheep Anti-Human IgG4	08643131	Polyclonal	1 mL
Rabbit Anti-Human Red Blood Cells	0855133	Polyclonal	2 mL
Sheep F(ab') ₂ Anti-Mouse IgG Biotin	0855600	Purified Polyclonal	1 mL
Goat F(ab') ₂ Anti-Mouse IgM FITC	0855509	F(ab') ₂	2 mL
Goat Anti-Mouse Serum	0855449	Polyclonal	2 mL
Goat Anti-Rat IgG FITC	0856407	Purified Polyclonal	2 mg
Goat Anti-Rat IgG HRP	0855778	Purified Polyclonal	2 mL
Rabbit IgG FITC	0855890	Purified	25 mg
Goat F(ab') ₂ Anti-Rabbit IgG F(ab') ₂ FITC	0855659	F(ab') ₂	2 mL
Goat Anti-Rabbit IgG HRP	0855688	Purified Polyclonal	2 mL
Goat Anti-Alkaline Phosphatase (AKP)	0855975	Purified Polyclonal	2 mL
Goat Peroxidase Anti-Peroxidase (PAP)	0855967	Polyclonal	1 mL
Rabbit Anti-Horseradish Peroxidase (HRP)	0855974	Purified Polyclonal	5 mL

Antibodies for detecting GFP, BFP and other variants of wtGFP

Two monoclonal antibodies (mAb) are offered for the detection of Qbiogene's SuperGlo™ GFP and SuperGlo™ BFP. Both recognize also all other variants. Anti-AFP® mAbs are purified from the supernatant of mouse hybridomas.

The 11E5 mAb, which is a mouse IgG1 monoclonal antibody recognizing GFP and other variants in their denatured form, is ideal for detection in Western analyses. Use of the 11E5 mAb allows detection of as little as 10 ng of GFP using colorimetric methods, and will detect picogram quantities with chemiluminescent detection assays. Performing Western blots with the 11E5 mAb allows confirmation of AFP® or AFP®-fusion protein expression at the expected molecular weight.

The 3E6 mAb, an IgG2a antibody recognizing the native form of GFP, can be used for immunoprecipitation, immunocytochemistry, and ELISA assays. Purification of AFP® and AFP®- fusion proteins is possible using either protein A or protein G.

Both antibodies are highly specific for GFP and its variants in bacterial as well as mammalian cell extracts, giving strong, clean signals.

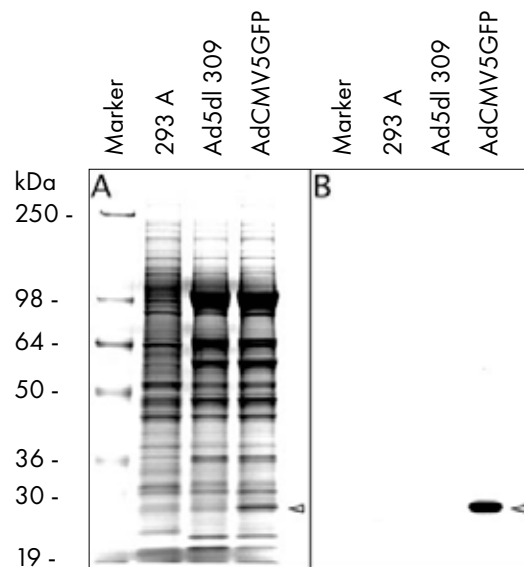


Figure 1: Analysis of 293A cells infected with AdCMV5-GFP. (A) Coomassie-stained 10% Tris-glycine SDS PAGE and corresponding Western Blot (B). Total protein was extracted 48 hr. post infection, 15 µg total protein loaded per lane. The Western blot was analyzed using mAb 11E5, and a rabbit anti-mouse secondary Ab. (Courtesy of Dr. Bernard Massie, BRI, Montreal)

Description	Cat. No.	Format	Size
Anti-GFP, Clone 11E5	08687381	Liquid	100 µg
Anti-GFP, Clone 3E6	08687402	Liquid	1 mg

NEW

High Performance Cellular Analysis Kits

MP Bio recently introduced new cellular analysis kits at the whole cell level. These kits are supported by our diverse scientific expertise, time-tested products and technology platforms. They provide research tools to monitor cell viability, proliferation, mitophagy and cellular senescence.

FastCounting™ Cell Counting Kits

Provides a sensitive and convenient method to determine cell viability in cell proliferation and cytotoxicity assays.

- Highest sensitivity dye for cell viability
- Lowest cytotoxicity among tetrazolium reagents
- Simple procedures without thawing reagents

FastMitophagy™ Detection Kit

Designed for mitophagy detection in mammalian cells.

- Simple procedure: just add the Mitophagy dye - no need for transfection
- More sensitive than other autophagy markers

FastCellular™ Senescence Detection Kit

Detect senescent cells with much higher sensitivity than X-gal

- Higher sensitivity due to new fluorogenic detection probe
- Applicable for living cells and fixed tissues



Description	Cat. No.	Format	Size
FastCounting™ Cell Counting Kit	092690131	Kit	100 tests
	092690132	Kit	500 tests
FastMitophagy™ Detection Kit	092690201	Kit	5 x 96 well plates or 25 x 35 mm dish
FastCellular™ Senescence Detection Kit - SPiDER-β-Gal	092690301	Kit	1 x 6 well plate

NEW

Cryopreservation Reagents

With over 40 years of experience manufacturing and supplying cell biology products, MP Bio understands the challenges associated with cell cryopreservation. Cryopreservation media from MP Bio ensures:

- Consistent high cell viability
- Serum-free and protein-free formulations
- Validation with multiple cell types
- Long-term cell storage
- Balanced components for maintaining cellular functions
- Long shelf life



We offer a complete solution for cryopreservation to meet your needs:

- **Cryopres™ Dimethyl Sulfoxide (>99.9% USP DMSO)** – commonly used in cell cryopreservation, along with glycerol, to prevent damage to the cell membrane during freezing.
- **pZerve™** – ready-to-use, sterile, cryopreservation solution that does not contain dimethyl sulfoxide (DMSO), fetal bovine serum or other animal proteins.
- **Cell Cryopreservation Medium with 10% DMSO** – a balanced, protein free, ready-to-use cryopreservation solution with 10% USP DMSO (Cryopres™).
- **2-8 CELLsium™** – cytoprotective, protein free, ready-to-use biosolution without DMSO for the short-term storage of cells or tissue.

Description	Cat. No.	Format	Size
pZerve™ Cryopreservation Solution	092030346	Solution	20 mL
	0920303M2	Solution	60 mL
Cell Cryopreservation Medium with 10% DMSO	092780248	Solution	50 mL
Cryopres™ Dimethyl Sulfoxide (>99.9% USP DMSO)	092780145	Solution	10 mL
	092780148	Solution	50 mL
2-8 CELLsium™ medium for short-term cell storage	092780349	Solution	100 mL
	092780354	Solution	500 mL



One Call. One Source. A World of Histology Products.

- Apoptosis
- Cell Biology
- Culture Growth Media
- FastPrep® Sample Prep
- Immunology
- Molecular Biology
- Adsorbents
- Biochemicals
- Fine Chemicals
- Labware
- Radiochemicals
- Research Diets
- SafTest™ Food Quality
- Diagnostics
- Drugs of Abuse
- Infectious Disease
- EIA/RIA

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