



Innovative Cell & Gene Therapy Solutions

From Culture to Cure

Pioneering the Future of Medicine

The era of cell and gene therapy is transforming medicine, offering unprecedented hope for treating previously incurable diseases through precision-targeted interventions. At MP Biomedicals, we are committed to empowering this revolution.

Our comprehensive portfolio of high-quality media, buffers, purification agents, and specialty reagents provides the foundation for innovation in cell and gene therapy research and production. Our Innovative Cell & Gene Therapy Solutions provide the precision and consistency required for robust preclinical studies and developmental research. We are dedicated to providing the foundational tools that enable you to explore the frontiers of cell and gene therapy, driving your research forward.



Table of Content

Discovery & Cell Culture Development

Chemically Defined Media for Reproducibility..... 4

Human-Derived Supplements for Sensitive Applications..... 5

Trusted Serum Options for General Cell Culture 5

Classic Media Formulations. 6

Optimization & Cell Expansion

Boost Cell Attachment and Differentiation with Extracellular Matrix (ECM) Coatings..... 7

Antibiotics..... 7

Cell Isolation & Blood Processing

Simplify Immune Cell Isolation 8

Nucleic Acid Purification & Characterization

Spin Column-Based Extraction for DNA and RNA..... 9

Automation & Scale-up

Automated Extraction with MPure-32™ and MPure-96™ aNAP Systems 12



Chemically Defined Media for Reproducibility



FastGro™

Synthetic, Animal-Free, Chemically Defined FBS Replacement

Features

- Supports growth of a wide range of cell cultures.
- Fully defined, xeno-free components with a consistent formulation and no batch-to-batch variation.
- Reduced risk of contamination
- Reproducible, ethical, safe for regulatory needs.

FastGro is a chemically defined cell culture additive designed to replace traditional serum supplements like FBS. Its primary purpose is to provide researchers with a consistent, reliable, and safe alternative for *in vitro* cell culture. By eliminating the variability and potential contamination associated with serum, FastGro ensures reproducible results and minimizes research bias.



Order Information		
Product Name	SKU	Pack Size
FastGro™	092640049	100 mL
	092640054	500 mL
Human Platelet Lysate (Heparin-free)	08810211	50 mL
	08810212	100 mL
	08810213	500 mL

Explore our Application Note



Human-Derived Supplements for Sensitive Applications

Human Platelet Lysate (Heparin Free)



Human Platelet Lysate (HPL) is a rich source of growth factors and cytokines derived from human platelets. It supports the proliferation and maintenance of diverse cell types, especially those thriving in a more physiologically relevant conditions.

This positions HPL as an exceptional supplement for applications where human-derived components are essential, including specific stem cell cultures and cutting-edge therapeutic research.

-  **Growth Factor Rich:** Enriched with growth factors, cytokines, chemokines, and various proteins, to maximize cell growth potential.
-  **Enhanced Efficacy:** Outperforms other serum supplements in promoting cell growth.
-  **Versatile Application:** Suitable for serum-free media supplementation or as a replacement for traditional serum.
-  **Quality Control:** Donors are rigorously tested for HBsAg, anti-HBc, anti-HIV-1/2, anti-HCV, anti-HTLV-1/2, anti-T. cruzi. Additional testing includes nucleic acid testing (NAT) for HIV-1, HCV, HBV, and West Nile virus (WNV), as well as microhemagglutination assay for syphilis.
-  **Trusted Performance:** Provides a reliable, human-derived alternative for general cell culture applications, ensuring consistent results across cell types.

We also recognize the continued importance of **Fetal Bovine Serum (FBS)** in many standard cell culture applications. FBS remains a widely used and well-characterized supplement, providing a complex mixture of growth factors and nutrients that support the proliferation of a broad range of cell types.



CELLlect™ FBS, GOLD, US Origin

SKU: 0929167



CELLlect™ FBS, GOLD, Heat Inactivated, US Origin

SKU: 0929168

Additional Cell Culture Media & Reagents

Category	Product Name	SKU	Pack Size
Cell Culture Media	RPMI 1640 Medium 1X, without Glutamine	091260254	500 mL
	RPMI 1640 Medium with L-Glutamine and Sodium Bicarbonate	091260354	500 mL
	RPMI (1X), without L-Glutamine, L-Cysteine, L-cystine, and L-Methionine	091646454	500 mL
	RPMI 1640 with 2 g/L Sodium Bicarbonate, without L-Glutamine and Glucose, Liquid	091646854	500 mL
	Dulbecco's Modification of Eagle's Medium	091233354	500 mL
	DMEM (1X), without L-Glutamine	091233254	500 mL
	DMEM (1X), with 4.5 g/L Glucose, without L-Glutamine and Inositol	091642954	500 mL
	DMEM (1X) with 20 mM HEPES and 4.5 g Dextrose/liter, without L-Glutamine or Sodium Bicarbonate	091233454	500 mL
	DMEM, with L-Glutamine	091033120	10 x 1 L
	MEM (1X), without L-Glutamine	091210254	500 mL
	MEM (1X) Earle's Salts and 2.0 g/L Sodium Bicarbonate, without L-Glutamine, L-Cysteine, L-Cystine, and L-Methionine	091641454	500 mL
	MEM Amino Acids (50X) without L-Glutamine	091601149	100 mL
	MEM, Earle's Salts and L-Glutamine, without Sodium Bicarbonate, Powder	091010122	10 x 1 L
	Ham's F-10, with L-Glutamine, without Sodium Bicarbonate, Powder	091040122	10 x 1 L
	Ham's F-12 (modified) with L-Glutamine, without Sodium Bicarbonate, Powder	091042120	10 x 1 L
	Ham's F12 (1X), with L-Glutamine	091242354	500 mL
Buffers & Salines	1X Phosphate Buffered Saline, Dulbecco's Formula, without Calcium, Magnesium	091860454	500 mL
	10X Dulbecco's Phosphate Buffered Saline, without Calcium and Magnesium	091960454	500 mL
	1X Hanks' Balanced Salt Solution, modified	091810054	500 mL
	TAE 50X Buffer	11TAE50X01	1 L
	Tris Glycine SDS Buffer 10X	04822534	500 mL
	TAE 10X	04822470	500 mL
	Tris-Buffered Saline (TBS), 10X, pH 7.4 for Western Blot	04822950	500 mL
Purification & Water	RNase/DNase-Free Water	112450204	500 mL
	DEPC-Treated Water	112420104	200 mL
Specialty Reagents	RIPA Buffer	04822720	100 mL
	EDTA Easy Sol	11EDTA05M1	100 mL
	Tween 20 Blocking Buffer, 1% in PBS (10X)	04822971	500 mL
Cell Detachment	0.25% Trypsin-EDTA (1X)	091689649	100 mL
	Accutase® Cell Detachment Solution	091000449	100 mL

Optimization & Cell Expansion

Boost Cell Attachment and Differentiation with ECM Coatings

Creating the ideal environment for your cells is crucial for successful cell culture and tissue engineering. Our ECM components ensure enhanced cell adhesion, proliferation, and differentiation.

Product	Application	Function	SKU
Collagen	2D and 3D cell culture; tissue engineering scaffolds; coating cell culture vessels.	Provides structural support; promotes cell adhesion, proliferation, and differentiation; mimics the ECM.	02150026
			02193492
Fibronectin	Cell culture; tissue engineering; wound healing studies.	Promotes cell adhesion, migration, and differentiation	02151126
			0855913
Laminin	Cell culture; neuronal cell studies; epithelial cell culture; tissue engineering.	Key component of the basement membrane; promotes cell adhesion, growth, and differentiation, particularly for epithelial and neuronal cells.	02150027
Poly-L-lysine	Coating cell culture surfaces; enhancing cell adhesion.	Provides positively charged sites that improve cell adhesion to culture vessels.	02152690
			02152689
Poly-D-Lysine	Coating cell culture surfaces; enhancing cell adhesion, especially neuronal cells.	Provides positively charged sites that enhance cell adhesion; the D-form minimizes enzymatic degradation. Molecular weight variation is used for different cell types and applications.	02150175
			02102694

Antibiotics



Contamination Prevention



Genetic Engineering

Cell Culture Type	Application	Function	SKU
Bacterial Cell Culture	Kanamycin Sulfate	Inhibits protein synthesis in Gram-positive and Gram-negative bacteria.	091672048
Mammalian Cell Culture	Amphotericin B	Antifungal agent; prevents yeast and fungal contamination.	0916723
	Gentamicin Sulfate Solution	Broad-spectrum antibiotic; targets Gram-positive and Gram-negative bacteria and mycoplasma.	0916760
			0916762
	G418 Sulfate	Selection agent for eukaryotic cells with neomycin resistance genes.	09167254
	Penicillin-Streptomycin	Prevents bacterial contamination.	091670249
			091674049

Simplify Immune Cell Isolation

MP Bio provides convenient, ready-to-use solutions like Lymphocyte Separation Medium (LSM™) and Mono-Poly Resolving Medium (M-PRM™) for efficient blood fractionation in a single step. These tools allow researchers to facilitate in-depth analysis into the development of plasma- or immune-based therapies. They simplify the isolation of key blood components—such as plasma, PBMCs, lymphocytes (B and T cells), monocytes, granulocytes, and erythrocytes—from a single whole blood sample, streamlining the study of specific cell types.



Lymphocyte Separation Medium
Density: 1.077 g/mL



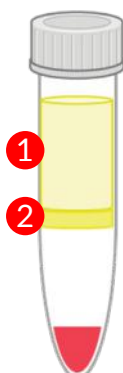
Mono-Poly Resolving Medium
Density: 1.114 g/mL

1 Plasma Layer

- Platelets (2-4 µm)
- Antibodies
- Cytokines
- Hormones
- Electrolytes

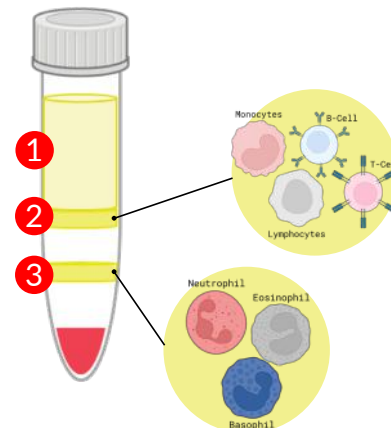
2 Lymphocytes & Monocytes

- Platelets (2-4 µm)
- Antibodies
- Cytokines
- Hormones
- Electrolytes



3 Granulocytes Layer

- Neutrophils
- Basophils
- Eosinophils



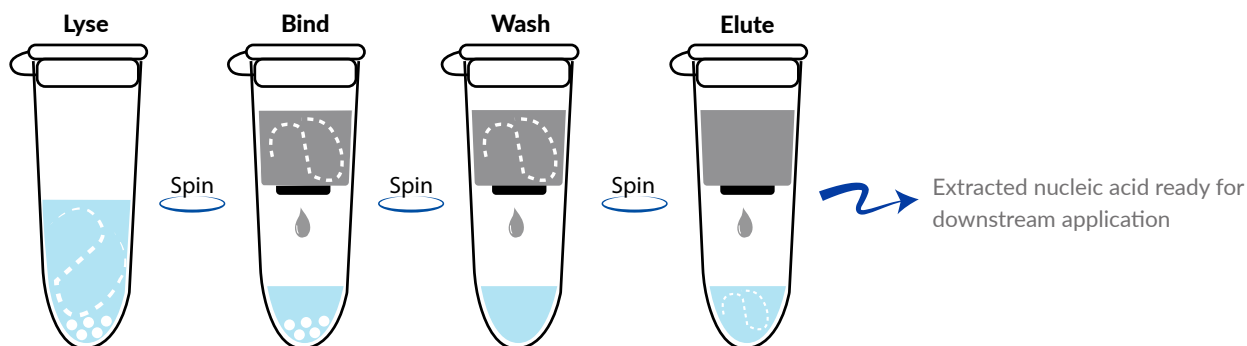
	Product	SKU
Density Gradient Media	LSM™ Lymphocyte Separation Medium	0850494
	Mono-Poly™ Resolving Medium	091698049
	LymphoSep™, Lymphocyte Separation Medium	0916922
	Histopaque® 1077	02190837
	Percoll®	02195369
	Ficoll®	02160003
Cell Isolation Kits/Tubes	LymphoSpinner™ Sample Ready Lymphocyte Isolation Kit, 15 mL	091692625
	LymphoSpinner™ Sample Ready Lymphocyte Isolation Kit, 50 mL	091692725
	LymphoSpinner™ Lymphocyte Isolation Tube, 15 mL	091692425
	LymphoSpinner™ Lymphocyte Isolation Tube, 50 mL	091692525

Nucleic Acid Purification & Characterization



Spin Column-Based Extraction for DNA and RNA

SPINeasy® Extraction Kits use silica-membrane spin-column technology to purify DNA and RNA from diverse samples including tissues, bacteria, soil, viruses, cells, and more. Nucleic acids are recovered in under 60 minutes, using optimized buffers and Lysing Matrices for sample disruption with FastPrep® instruments. The kits avoid toxic chemicals and support downstream applications such as PCR, qPCR, restriction digestion, and next-generation sequencing, offering a fast, reliable extraction method.



Sample Versatility



High Performance



Scalability



No Toxicity



Nucleic Acid Purification & Characterization

Blood is a widely used and accessible sample type in cell and gene therapy, as it contains white blood cells or circulating cell-free DNA that reveal patient or donor genetic profiles. DNA extraction kits for blood support preclinical research by enabling validation of vector designs and extend into clinical applications.

Featured Kit: SPINeasy® DNA Kit for Blood



Samples	Sample Volume	Yield (ng/μL sample)	A _{260/280}	A _{260/230}
Human Blood (EDTA)	200 μL	28.38	1.87	2.32
Human Blood (Heparin)	200 μL	29.78	1.93	2.49
Human Blood (Citrate)	200 μL	16.16	1.90	2.54
Blood Clot	0.15 g	43.64	1.90	2.18
Saliva	200 μL	16.48	1.93	3.62
Cell Culture Media	200 μL	32.83	1.87	2.86

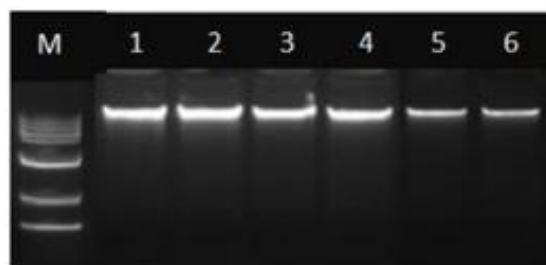


Figure 1: gDNA extracted from whole blood collected and preserved with different anticoagulants was separated on a 1% agarose gel.

Lane M: DNA marker (DL 15000); lanes 1-2: samples preserved with EDTA; lanes 3-4; lanes 5-6: Sodium citrate.

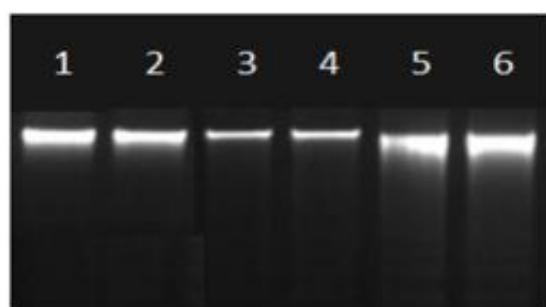


Figure 2: gDNA extracted from various samples using SPINeasy DNA kit for Blood, separated on 1% agarose gel.

Lanes 1-2: Blood clot; 3-4: Saliva; 5-6: Cell culture media (cultured cells for 2 days)

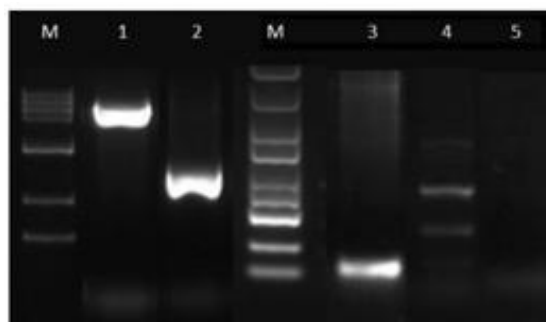


Figure 3: PCR amplification of gDNA extracted from human whole blood using the SPINeasy DNA Kit for Blood.

M: DNA marker, (DL15000 / 100 bp ladder); Lane 1: BRCA (-5778 bp); 2 HBB (-1424 bp); 3: GAPDH (-106 bp); 4: Bacterial 16S (-100 bp) ; 5: NTC

Nucleic Acid Purification & Characterization

Many gene therapies rely on RNA viruses, such as retroviruses or lentiviruses, as vectors to deliver therapeutic genes into cells. These viruses carry single-stranded RNA genomes that are reverse-transcribed into DNA and integrated into the host genome. SPINeasy Virus RNA Kit isolate viral RNA from samples such as cell cultures, blood, or viral stocks—allowing researchers to study vector integrity, viral titers, or genetic modifications.

Featured Kit: SPINeasy® Virus RNA Kit

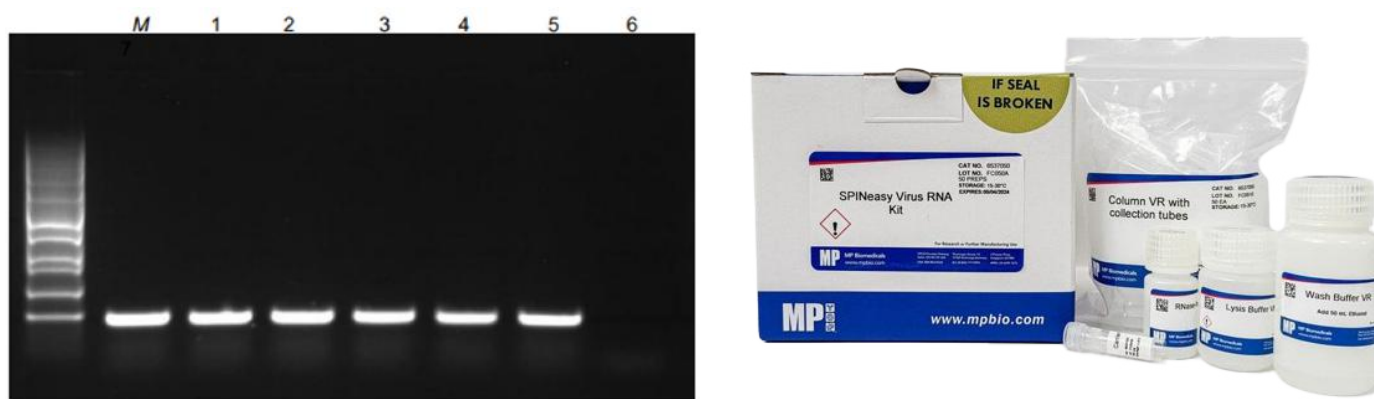


Figure 1: RT-PCR amplification of a viral-specific gene from RNA extracted from samples spiked with Influenza B virus, using the SPINeasy Virus RNA Kit. M: DNA marker; Lane 1: PBS; 2: DMEM (serum-free); 3: DMEM with 10% FBS; 4: Virus Transport Medium; 5: Saliva; 6: Serum; 7: Negative control.

Order Information

Product Name	SKU	Pack Size
SPINeasy® DNA Kit for Blood	116552050	50 preps
SPINeasy® Virus RNA Kit	116537050	50 preps



**Looking for more sample types supported by our extraction kits?
Scan here to discover them all!**



Automated Extraction with MPure-32™ and MPure-96™ Systems

Why Choose Automated Nucleic Acid Extraction?

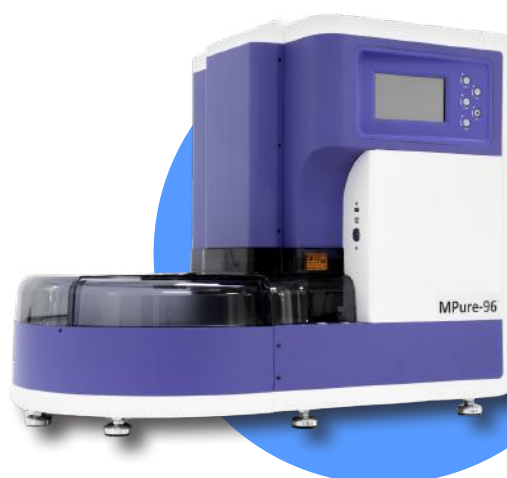
- **Consistency and Reproducibility:** Automated systems minimize human error and ensure uniform sample processing, delivering consistent yields and high purity.
- **High Throughput:** Automation enables the processing of large sample volumes. The MPure-32™ and MPure-96™ aNAP Systems can handle up to 32 and 96 samples simultaneously, respectively.
- **Time Efficiency:** Automated workflows reduce hands-on time, allowing researchers to focus on data analysis and innovation.



MPure-32™

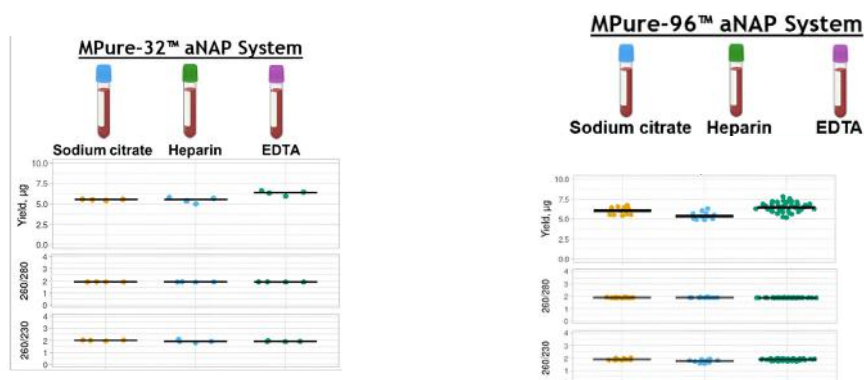


MPure-96™



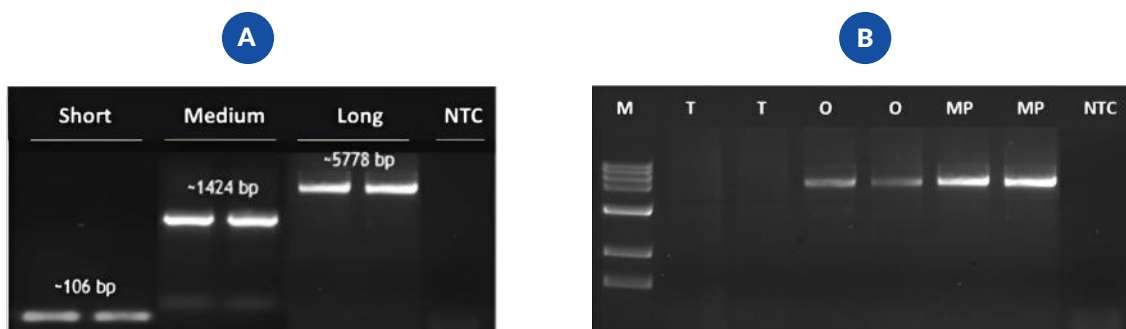
The MPure-32™ and MPure-96™ aNAP Systems are automated, magnetic bead-based platforms designed for efficient, high-throughput processing. The MPure-32™ processes up to 32 samples simultaneously in 40 to 60 minutes, delivering high-purity, high-yield nucleic acids while minimizing human error and eliminating cross-contamination risks. The MPure-96™ features specialized spin tips for superior mixing efficiency and larger processing volumes, its intuitive interface and flexible programming turn routine operations into walk-away solution operations. Both systems offer user-friendly functionality that enhances consistency, reproducibility, and overall lab productivity.

Extraction Efficiency of the MagBeads FastDNA Kit for Blood Using MPure-32™ and MPure-96™ Systems.



Blood samples preserved with sodium citrate, heparin, or EDTA were processed using the MPure-32™ and MPure-96™ aNAP Systems. Yield (µg) and purity ratios (A260/A280 and A260/A230) were measured for each condition. The MagBeads FastDNA Kit for Blood demonstrated high-quality and consistent gDNA extraction across all anticoagulants and both platforms.

Comparative Analysis of DNA Extraction and Amplification Efficiency for Short, Medium, and Long Genomic Fragments



(A) gDNA was extracted from blood samples under different conditions and analyzed on a 1% agarose gel. Lanes are labeled as follows: “Short” (~1106 bp), “Medium” (~1424 bp), “Long” (~5778 bp), and “NTC” (No Template Control, no visible band). (B) Long fragments of the human BRCA gene were amplified via Endpoint PCR. DNA extracted with the MagBeads FastDNA Kit (MP) successfully produced the long fragment, while DNA extracted with the Competitor T kit failed to do so. M: Marker, T: Competitor T, O: Competitor O, MP: MP Biomedicals, NTC: No template control.



Scan here to explore other MagBeads Kits

Order Information		
Product Name	SKU	Pack Size
MPure-32™	EMC043	1 unit
MPure-96™	EMC044	1 unit
MagBeads FastDNA Kit for Blood	116574096	96 preps
MagBeads FastDNA Kit for Blood (Ready-to-Use for MPure-32™)	117033700	96 preps
MagBeads FastDNA Kit for Blood (Ready-to-Use for MPure-96™)	117034700	96 preps



Fuel innovation in Cell and Gene Therapy with MP Biomedicals solutions.

MP BIOMEDICALS

NORTH AMERICA: 800.854.0530 | custserv.na@mpbio.com

CANADA: 800.854.0530 | custserv.ca@mpbio.com

LATIN AMERICA: 800.854.0530 | custserv.la@mpbio.com

CHINA: +86 400.150.0680 | custserv.cn@mpbio.com

JAPAN: +81 3.6667.0730 | custserv.jp@mpbio.com

SINGAPORE/APAC: +65 6775.0008 | custserv.ap@mpbio.com

SOUTH KOREA: +82 2.425.5991 | custserv.kr@mpbio.com

INDIA: +91.22.27636921/22/25 | custserv.in@mpbio.com

AUSTRALIA: +61 2.8824.2100 | custserv.au@mpbio.com

NEW ZEALAND: +64 9.912.2460 | custserv.nz@mpbio.com

EUROPE: +33 3.88.67.54.25 | custserv.eur@mpbio.com

AUSTRIA/GERMANY: 0800.426.67.337 | custserv.de@mpbio.com

POLAND: 00800.7777.9999 | custserv.po@mpbio.com

BELGIUM: 00800.7777.9999 | custserv.be@mpbio.com

FRANCE: +33 3.88.67.54.25 | custserv.fr@mpbio.com

ITALY: 00800.7777.9999 | custserv.it@mpbio.com

THE NETHERLANDS: 00800.7777.9999 | custserv.nl@mpbio.com

SWITZERLAND: 00800.7777.9999 | custserv.ch@mpbio.com

SERBIA: +381 11.242.1972 | custserv.se@mpbio.com

RUSSIA: +7 495.661.0008 | custserv.rs@mpbio.com

UK: 0800.282.474 | custserv.uk@mpbio.com