



HUMAN PERIPHERAL BLOOD PRODUCTS

to Streamline Your
Cell-Based Assays

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Human Peripheral Blood Products

Primary cell-based approaches reduce the need for extensive in vivo validation and facilitate the translation of basic research into preclinical or clinical applications. Peripheral blood (PB) is a rich source of human primary cells that retain key aspects of the tissue of origin and are more reflective of donor variability, including human leukocyte antigen (HLA) type and cytomegalovirus (CMV) status, than cell lines. Increase the physiological relevance of cell culture systems and generate data that is more predictive of in vivo outcomes in your research relating to immunology, infectious disease, regenerative therapy, hematological malignancies, CAR-T cell therapy, personalized medicine, and drug discovery and toxicology testing.

Fresh collections from normal and diseased-state donors, including leukopaks, leukocyte reduction system (LRS) cones, and whole peripheral blood are ideal starting materials for performing cell isolation using manual or automated immunomagnetic and column-free EasySep™ cell isolation kits. Alternatively, cryopreserved, purified PB cells from normal and diseased-state donors such as leukopaks, mononuclear cells (MNCs), isolated immune cell subsets, dendritic cells, neutrophils, macrophages, and disease-state cells, are ready to use and eliminate the need for cell isolation.

A key factor for efficient, high-quality cell-based research is working with a reliable supplier who understands and supports your specific requirements. STEMCELL Technologies accommodates changing customer needs with personalized service, customizable products, flexible services, and help with regulatory compliance. Additionally, with the option to reserve entire lots to pre-screen cells for your applications, we help ensure you get the cells you need. Discover our broad range of ethically sourced human PB products below, including leukopaks, LRS cones, whole blood, human platelet lysate, serum, plasma, MNCs, and other immune cell subsets as well as mobilized PB sourced MNCs, and hematopoietic stem and progenitor cells (HSPCs) to streamline your research.

For a complete listing of our PB primary cell products*, please visit www.stemcell.com/cells-peripheral-blood.

Why Use Human Primary Cells from STEMCELL?

PHYSIOLOGICALLY RELEVANT. Choose cells that are more physiologically representative of cells in vivo.

ETHICALLY SOURCED. Access donor samples collected using regulatory authority-approved consent forms and protocols.

CUSTOMIZABLE. Request custom products for non-standard cell types or collections with specific requirements.

FLEXIBLE. Reserve large numbers of cryopreserved cells and start experiments on your schedule with cells you've already tested.

EFFICIENT. Reduce time spent collecting and culturing primary cells.

Whole Peripheral Blood

Choose from a range of whole peripheral blood volumes and anticoagulants. Small volumes (< 100 mL) and large volumes (≥ 450 mL) are collected and supplied in 10 mL Vacutainer® tubes and collection bags, respectively, using acid citrate dextrose solution A (ACDA), ethylenediaminetetraacetic acid (EDTA), or sodium heparin (Na heparin) as an anticoagulant. High-resolution HLA typing is available upon request. To isolate your cell subset of interest from whole blood, choose from a wide range of [RosetteSep™](#) cell isolation kits for to obtain untouched cells directly from whole blood.



RESOURCE

Frequently Asked Questions on Primary Cells
www.stemcell.com/PrimaryCellsFAQs

*Certain fresh and cryopreserved products are only available in select territories. Please contact your sales representative or Product and Scientific Support (techsupport@stemcell.com) for further information.

Leukopaks

Leukopaks are highly concentrated, low-volume apheresis collections that primarily contain peripheral blood mononuclear cells (PBMCs). Leukopaks are an ideal starting material for downstream isolation of large numbers of cells, reducing the time and reagents needed to process cells of interest. Leukopaks are usually collected using the Spectra Optia® Apheresis system, with one full leukopak collection being equivalent to approximately three blood volumes. A full-size leukopak typically contains $> 1 \times 10^{10}$ cells in an average volume of 120 mL. Fresh and frozen leukopaks are available in full, half, quarter, and tenth sizes. Looking to scale up your cell isolations? Explore the [Easy 250 EasySep™ Magnet](#), which allows you to process up to 225 mL and 1.25×10^{10} cells in a single isolation.

LRS Cones or LRS Chambers

Use LRS cones as a source of viable human white blood cells, including monocyte and lymphocyte populations for your research. LRS cones are used during the collection of leukapheresis products to reduce the leukocyte count from human blood collections. The collected leukocytes can be further processed using cell separation products, such as EasySep™ cell isolation kits, to purify cell populations for study.

Serum

Obtain fresh or frozen primary human serum isolated from PB using centrifugation for maintenance and expansion of your cells. Human serum is the fluid portion of blood that is left after coagulation has removed clotting factors/fibrinogen and cellular components. Serum contains water, proteins, electrolytes, antibodies, antigens, hormones, and any exogenous substances.

Plasma

Use fresh or frozen human plasma isolated from PB using centrifugation as a source of human proteins, antibodies, and other biomaterials for your experiments. Human plasma is the liquid component of blood and contains water, salts, lipids, hormones, proteins (including albumin), immunoglobulins, clotting factors, and fibrinogen. Our isolated plasma does not contain the cellular components of blood—i.e. erythrocytes and the buffy coat, composed of leukocytes and platelets.



Figure 1. (A) Fresh and (B) Frozen Human Peripheral Blood Leukopak - Full-Size

(A) Fresh Leukopak (Catalog #70500) and (B) Frozen Leukopak (Catalog #200-0130) from a normal donor containing peripheral blood mononuclear cells (PBMCs) enriched using the Spectra Optia® Apheresis System.



Figure 2. LRS Cone

LRS Cones (Catalog #200-0093) containing primary human leukocytes.



LEUKOPAK PROCESSING

Tips & Tricks for Streamlined Cell Isolation
www.stemcell.com/Leukopak-Processing-Webinar



PRODUCT

Easy 250 EasySep™ Magnet
www.stemcell.com/Easy-250-EasySep-Magnet.html

Peripheral Blood Mononuclear Cells

PBMCs include lymphocytes, monocytes, dendritic cells, and hematopoietic progenitors. Large lots of fresh and cryopreserved PBMCs and purified cells are produced by processing entire full-size leukopak. PBMC lot sizes are typically greater than 50 vials of 1×10^8 cells per vial, making it possible to reserve large numbers of vials from the same lot and ensure consistency across multiple experiments.

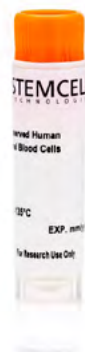


Figure 3. Human Peripheral Blood Mononuclear Cells, Frozen

Primary human mononuclear cells (MNCs) (Catalog #70025) are isolated from peripheral blood (PB) leukapheresis samples using density gradient separation and/or red blood cell lysis.

Diseased-State PBMCs

Access cryopreserved PBMCs isolated from donors with:

- **Autoimmune and inflammatory disorders:** celiac disease, Crohn’s disease, lupus (SLE), osteoarthritis, psoriasis, rheumatoid arthritis, and ulcerative colitis
- **Cancers:** hematopoietic malignancies, including acute myeloid leukemia (AML), myelofibrosis (MF), diffuse large B cell lymphoma (DLBCL), follicular lymphoma (FL), multiple myeloma (MM), chronic myelogenous leukemia (CML), acute lymphoblastic leukemia (ALL), chronic lymphocytic leukemia (CLL), and mantle cell lymphoma (MCL), and solid tumors, including liver, lung, breast, cervical, melanoma, ovarian, bladder, prostate, esophageal, colorectal, head & neck, gastric, kidney, pancreatic, and endometrial cancers
- **Diabetes:** Type I and Type II
- **Lung disorders:** asthma and chronic obstructive pulmonary disease (COPD)

Normal PBMCs

Obtain PBMCs from a large donor pool in convenient sizes with high-resolution HLA typing (A, B, C, DRB1, DRB3/4/5, and DQB1) and CMV status available upon request.



Figure 4. Diseased Human Peripheral Blood Products

Diseased human PBMCs from donors diagnosed with cancer, such as lung cancer, may be obtained in various formats, including (A) PBMCs, Frozen (Catalog #200-0214), (B) Peripheral Blood Leukopak Collection, Fresh (Catalog #200-0300), and (C) Whole Peripheral Blood Collection, Heparin, Fresh (Catalog #200-0270). Collections are obtained using Institutional Review Board (IRB)-approved consent forms and protocols.



VIDEO

How to Thaw Frozen Human Primary Cells
www.stemcell.com/How-To-Thaw-Frozen-Human-Primary-Cells

Purified Immune Cells

Cryopreserved, purified immune cells are isolated from peripheral blood using EasySep™ cell isolation kits with guaranteed viability and purity documented in the lot-specific Certificate of Analysis. Cells are immediately ready for use, eliminating the need to perform downstream cell isolation. Choose from a wide range of cell types and subsets, including T cells, B cells, monocytes, dendritic cells, and natural killer (NK) cells. High-resolution HLA typing is available upon request.

Natural Killer Cells

NK cells are a subset of innate immune cells with high cytolytic activity, releasing cytotoxic granules to target infected or cancerous cells for elimination. NK cells also produce immunoregulatory cytokines that modulate the adaptive immune response, and are therefore of high interest in cancer and viral immunotherapy research.

T Cells

T cells are lymphocytes that originate in the bone marrow and migrate to the thymus to undergo maturation. T cells are essential in the adaptive immune response and there is particular interest in genetically engineering these cells for therapy against cancer and other diseases. There are several subsets of T cells, including naïve and memory helper T cells, cytotoxic T cells, and regulatory T cells. Choose from a range of cryopreserved T cells and subsets, including pan-T cells, naïve pan-T cells, Th17 T cells, CD4⁺ T cells, CD8⁺ T cells, CD8⁺ Memory T cells, CD4⁺CD25⁻ T cells, CD4⁺CD45RA⁺ T cells, CD4⁺CD45RO⁺ T cells, CD4⁺CD25⁺CD127^{low} T cells, CD4⁺CD25⁺CD127^{low}FOXP3⁺ T cells, and CD8⁺CD45RA⁺ T cells.

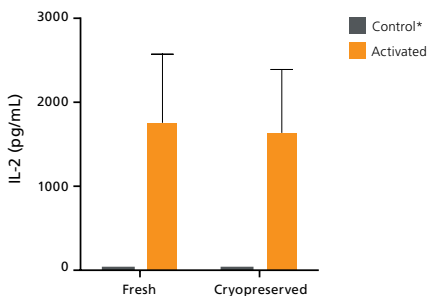


Figure 5. Cryopreserved Pan-T Cells Secrete IL-2 Upon Activation

T cells freshly isolated from a leukopak (Catalog #70500) using EasySep™ Human T Cell Isolation Kit (Catalog #17951) or cryopreserved Pan-T Cell (Catalog #70024) were cultured in ImmunoCult™-XF T Cell Expansion Medium (Catalog #10981) and incubated for 48 hours with or without ImmunoCult™ Human CD3/CD28 T Cell Activator (Catalog #10971). Freshly isolated and cryopreserved purified T cells secrete similar levels of IL-2 upon activation, as measured using the Human IL-2 ELISA Kit (Catalog #02006).

*IL-2 concentration of control in culture was lower than the limit of detection.

Monocytes

Monocytes are precursors of macrophages and DCs that originate in the bone marrow and are released into the peripheral blood. Monocytes play an important role in immune surveillance, host defense, tissue remodeling and repair, and have also been implicated in many inflammatory diseases.

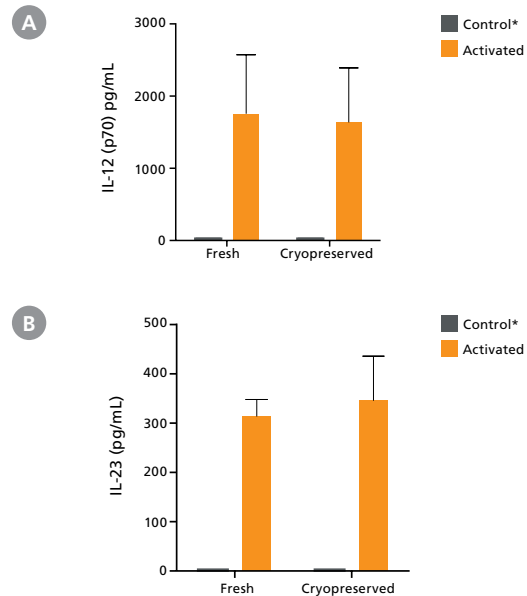


Figure 6. Cryopreserved Monocytes Differentiate into Dendritic Cells and Secrete IL-12 (p70) and IL-23 Upon Activation

Monocytes freshly isolated from a leukopak (Catalog #70500) using EasySep™ Human Monocyte Isolation Kit (Catalog #19359) or cryopreserved monocytes (Catalog #70034) were cultured for 6 days in RPMI 1640 Medium (Catalog #36750) with 10% FBS, 0.1 mM MEM Non-Essential Amino Acid Solution (100X, Catalog #07600), 2 mM L-Glutamine (Catalog #07100), 1 mM Sodium Pyruvate, and 50 μM β-mercaptoethanol. Human Recombinant IL-4 (Catalog #78045) and Human Recombinant GM-CSF (Catalog #78015) were added on days 1, 3, and 6 to differentiate monocytes into DCs. Cells were either left unstimulated (control) or stimulated with LPS and Human Recombinant IFN-γ (Catalog #78020) (activated). Activation led to secretion of (A) IL-12 (p70) and (B) IL-23, which were not detectable in unstimulated controls, as measured using the Human IL-12 (p70) ELISA Kit (Catalog #02014) and the Human IL-23 ELISA Kit (Catalog #02016), respectively.

*Cytokine concentration of control in culture was lower than the limit of detection.



WALLCHART

Frequencies of Human Cell Types in Blood-Related Sources

www.stemcell.com/forms/Wallchart-Cell-Frequencies.html

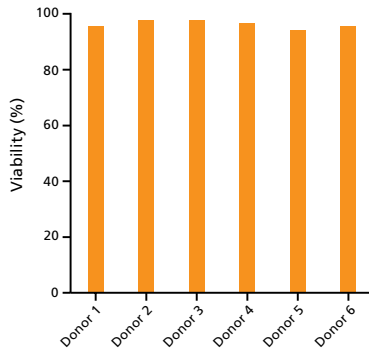
B Cells

B cells express cell surface immunoglobulin receptors that recognize specific antigenic epitopes, and are an integral component in the humoral response of the adaptive immune system. B cells mediate many processes necessary for immune homeostasis, including antibody production, antigen presentation, cytokine secretion, T cell co-stimulation, and tumor immunity. Conversely, their dysregulation is the basis of several immune pathologies, including autoimmunity, leukemia/lymphoma, and multiple myeloma.

Other Subsets

Our portfolio is continually expanding with many newly launched immune cell subsets and now also includes macrophages, neutrophils, and eosinophils. For a complete listing of peripheral blood sourced immune cells, please visit: www.stemcell.com/pb-immuncells.

A



VIDEO

Large-Volume Cell Isolation from Whole Blood and Leukopaks

www.stemcell.com/Large-Volume-Cell-Isolation

B

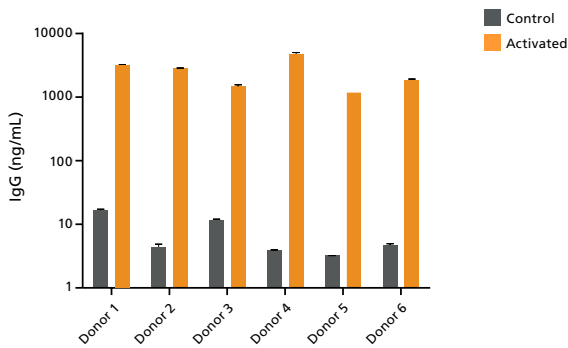


Figure 7. Cryopreserved B Cells Show High Viability and Produce IgG Antibodies Upon Stimulation

(A) B Cells (Catalog #70023) cryopreserved in CryoStor® CS10 (Catalog #07930) show high viability upon thawing (average = $96.3 \pm 0.6\%$, $n = 6$). (B) B cells were cultured for 1 week in RPMI 1640 Medium (Catalog #36750) with 10% FBS, 2 mM L-Glutamine (Catalog #07100), 10 mM HEPES (Catalog #07200), and 55 μ M β -mercaptoethanol and either left unstimulated (control) or stimulated with CD40 in the presence of IL-21 (activated). Activated B cells produce significantly more IgG antibodies compared to unstimulated controls, as measured by ELISA.

Mobilized Peripheral Blood Cells

Mobilized peripheral blood can be used to obtain large numbers of HSPCs from a single collection, ensuring consistency across multiple experiments or large-scale studies. Mobilization with granulocyte colony-stimulating factor (G-CSF), plerixafor (Mozobil®), or a combination of both G-CSF and plerixafor, induces HSPCs to migrate out of the bone marrow and into the peripheral blood. Normal adult donors are mobilized with G-CSF for 3 - 5 days prior to collection of G-CSF-mobilized cells. Alternatively, donors are mobilized with plerixafor for 1 day prior to collection of plerixafor-mobilized cells. Cells are collected using the Spectra Optia® Apheresis system with ACDA as the anticoagulant. High-resolution HLA typing is available upon request.

Mononuclear Cells

MNCs are isolated using density gradient centrifugation or red blood cell lysis and cryopreserved in CryoStor® CS10. Over 300 vials of 1×10^9 MNCs can be produced and cryopreserved from a single leukopak, ensuring consistency across multiple experiments.

Hematopoietic Stem and Progenitor Cells

CD34⁺ cells are isolated using immunomagnetic positive selection and cryopreserved in serum-free cryopreservation medium containing 10% DMSO. Typical lot sizes of 100 - 200 vials of 1×10^6 CD34⁺ cells are cryopreserved from a single leukopak, ideal for large-scale studies.

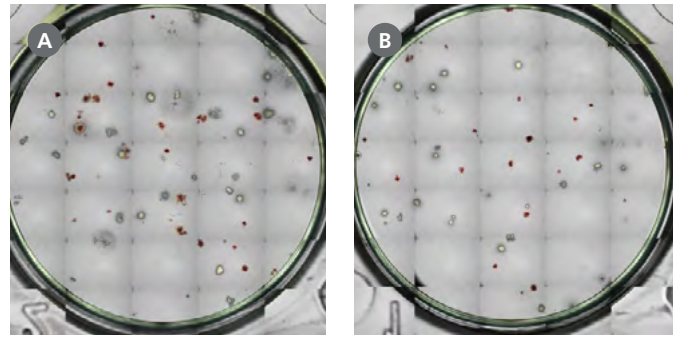


Figure 8. Cryopreserved Mobilized Peripheral Blood Mononuclear Cells and CD34⁺ Cells Generate Hematopoietic Colonies in CFU Assays

(A) Cryopreserved mobilized peripheral blood mononuclear cells (Catalog #70049) or (B) CD34⁺ cells (Catalog #70060) were thawed and plated at a concentration of 1×10^4 or 5×10^2 viable cells/dish, respectively. Cells were cultured in MethoCult™ Optimum Medium (Catalog #04034) for 14 days to allow colony formation by individual progenitors. Colonies produced by hematopoietic progenitor cells within each sample were imaged and quantified with STEMvision™.



INSTRUMENT

STEMvision™ Hematopoietic Colony Counter
www.stemcell.com/StemVision

Standardize Your Cell Thawing Process

Cryopreservation and thawing are useful techniques performed by researchers routinely handling cells and tissues. Conventional methods for thawing frozen primary cells can present challenges such as inconsistent cell recovery. By using a standardized cell thawing process, researchers can minimize variability in sample handling and get a consistent thawing performance, which is critical for successful downstream applications.

ThawSTAR® CFT2 Automated Thawing System

Standardize your thawing process using the ThawSTAR® CFT2 Automated Thawing System (Catalog #100-0650)—a sensor-based, water-free instrument that delivers cell thawing profiles similar to those of a water bath. Conveniently thaw your cells in the biosafety cabinet, in ~2.5 minutes, while you prepare for the next step in your experiment.



Figure 9. ThawSTAR® CFT2 Automated Thawing System

ThawSTAR® CFT2 Automated Thawing System (Catalog #100-0650)—automated cell thawing system for consistent thawing performance.

Cryopreserve Your PBMCs

CryoStor® CS10

CryoStor® CS10 (Catalog #07930) is a uniquely formulated serum-free, animal component-free, and defined cryopreservation medium containing 10% dimethyl sulfoxide (DMSO). Designed to preserve cells in low temperature environments (-80°C to -196°C), CryoStor® CS10 provides a safe, protective environment for cells and tissues during the freezing and thawing processes and during storage. CryoStor® CS10 is cGMP-manufactured with USP grade components.



Figure 10. CryoStor® CS10

CryoStor® CS10 (Catalog #07930) is a cGMP-manufactured, serum-free, animal component-free, and defined cryopreservation medium containing 10% dimethyl sulfoxide (DMSO).

Isolate Your Cells Efficiently

Highly Purified Cells for Any Downstream Application

Ensure that your isolated cells are viable and suitable for downstream functional and biological studies using fast, easy, and column-free cell separation technologies.



EasySep™

Fast and Easy Immunomagnetic Cell Isolation

EasySep™ isolates cells quickly and easily without the use of columns in as little as 8 minutes. With a simple pour, isolated cells are immediately ready for downstream use.



RosetteSep™

Unique Immunodensity Cell Isolation

RosetteSep™ isolates highly purified cells directly from human whole blood during density gradient centrifugation, reducing your cell isolation workflow to a single step.



RoboSep™

Fully Automated Immunomagnetic Cell Isolation

RoboSep™-S, RoboSep™-16, and RoboSep™-C fully automate all cell labeling and separation steps of the EasySep™ procedure, minimizing sample handling and freeing up technician time.

Product Listing¹

Peripheral Blood^{1,2}

Leukopaks^{3,4}

Description	Anticoagulant	Quantity	Catalog #
Fresh Peripheral Blood Leukopak ⁴	ACDA ⁵	Tenth Size	200-0092
		Quarter Size	70500.2
		Half Size	70500.1
		Full Size	70500
Frozen Peripheral Blood Leukopak	ACDA ⁵	Tenth Size	200-0470
		Quarter Size	200-0132
		Half Size	200-0131
		Full Size	200-0130

LRS Cone³

Description	Anticoagulant	Quantity	Catalog #
Leukocyte Reduction System (LRS) Cone	ACDA ⁵	1 cone	200-0093

Fresh Human Peripheral Blood Products³

Description	Anticoagulant	Quantity	Catalog #
Whole Peripheral Blood	ACDA ⁵	1 x 10 mL	70504.1
		2 x 10 mL	70504.2
		3 x 10 mL	70504.3
		4 x 10 mL	70504.4
		5 x 10 mL	70504.5
		10 x 10 mL	70504.6
		≥450 mL	70504
Plasma	ACDA ⁵	10 mL	200-0150
		20 mL	200-0151
		30 mL	200-0152
		40 mL	200-0153
		50 mL	200-0154
		100 mL	200-0155
		150 mL	200-0156
Serum	-	1 mL	200-0157
		5 mL	200-0158
		10 mL	200-0159

Description	Cell Type	Quantity	Catalog #
Fresh Purified Cells	Peripheral Blood Mononuclear Cells	100 million cells	200-0077
		300 million cells	200-0078
	Pan-T Cells	10 million cells	200-0046
		25 million cells	200-0047
		40 million cells	200-0048
	B Cells	5 million cells	200-0059
		10 million cells	200-0060
	NK Cells	5 million cells	200-0063
		10 million cells	200-0064
	Monocytes	5 million cells	200-0067
10 million cells		200-0068	

1. Certain cryopreserved products are only available in select territories. Please contact Product and Scientific Support (techsupport@stemcell.com) for further information.
2. High-resolution HLA typing and CMV status are available upon request.
3. Fresh products are currently available in the United States and Canada (excluding Quebec).
4. A full-size leukopak typically contains $1.1 \pm 0.3 \times 10^{10}$ cells and has a volume of approximately 120 mL.
5. ACDA - Acid Citrate Dextrose Solution A.

Cryopreserved Human Peripheral Blood Cells¹

Description	Quantity	Catalog #
Peripheral Blood Mononuclear Cells ²	15 million cells	70025.1
	25 million cells	70025.2
	50 million cells	70025.3
	100 million cells	70025
Pan-T Cells	20 million cells	70024
	40 million cells	70024.1
CD8 ⁺ Memory T Cells	5 million cells	200-0168
Naïve Pan T Cells	5 million cells	200-0170
Th17 Cells	5 million cells	200-0169
CD4 ⁺ T Cells	15 million cells	70026
CD4 ⁺ CD25 ⁻ T cells	10 million cells	200-0124
	20 million cells	200-0125
CD4 ⁺ CD25 ⁺ CD127 ^{low} T cells	10 million cells	200-0122
	20 million cells	200-0123
CD4 ⁺ CD25 ⁺ CD127 ^{low} FOXP3 ⁺ T cells (Tregs)	1 million cells	200-0120
	2 million cells	200-0121
CD4 ⁺ CD45RA ⁺ T Cells	5 million cells	70029
CD4 ⁺ CD45RO ⁺ T Cells	5 million cells	70031
CD8 ⁺ T Cells	10 million cells	70027
CD8 ⁺ CD45RA ⁺ T Cells	5 million cells	70030
B Cells	10 million cells	70023
	20 million cells	70023.1

Description	Quantity	Catalog #
CD19 ⁺ CD27 ⁻ Naïve B Cells	1 million cells	70032
CD19 ⁺ B Cells	10 million cells	70033
Monocytes	10 million cells	70034
CD14 ⁺ Monocytes	10 million cells	70035.1
	20 million cells	70035.2
	40 million cells	70035
NK Cells	5 million cells	70036
CD56 ⁺ NK Cells	5 million cells	70037
Macrophages	1.5 million cells	70042
Immature Dendritic Cells	1.5 million cells	70041
Plasmacytoid Dendritic Cells	0.5 million cells	70046
Pan Dendritic Cells	0.5 million cells	200-0560
Central Memory CD4 ⁺ T Cells	2 million cells	200-0380
Effector Memory CD4 ⁺ T Cells	2 million cells	200-0381
Central Memory CD8 ⁺ T Cells	2 million cells	200-0382
Effector Memory CD8 ⁺ T Cells	2 million cells	200-0383
Neutrophils	10 million cells	200-0384
Eosinophils	1 million cells	200-0385
PB-Derived Immature Dendritic Cells ^{3a}	1.5 million cells	200-0370
PB-Derived Mature Dendritic Cells ^{3a}	1.5 million cells	200-0371
PB-Derived M0 Macrophages ^{3b}	1.5 million cells	200-0372
PB-Derived M1 Macrophages ^{3b}	1.5 million cells	200-0373
PB-Derived M2a Macrophages ^{3b}	1.5 million cells	200-0374

1. Certain cryopreserved products are only available in select territories. Please contact Product and Scientific Support (techsupport@stemcell.com) for further information.
2. High-resolution HLA typing and CMV status are available upon request.
3. a) ACF-cultured; b) SF-Cultured

Cryopreserved Human Peripheral Blood Products¹

Description	Quantity	Catalog #
Plasma	10 mL	70039.1
	20 mL	70039.2
	30 mL	70039.3
	40 mL	70039.4
	50 mL	70039.5
	100 mL	70039
	150 mL	70039.6
Serum	1 mL	200-0160
	5 mL	200-0161
	10 mL	200-0162

Cryopreserved Human Platelet Lysate

Description	Quantity	Catalog #
Human Platelet Lysate	50 mL	06960
	100 mL	06961
	500 mL	06962
Human Platelet Lysate, Fibrinogen-Depleted	50 mL	06963
	100 mL	06964
	500 mL	06965
Human Platelet Lysate, Fibrinogen-Depleted, XF	50 mL	200-0360
	100 mL	200-0361
	500 mL	200-0362
Human Platelet Lysate, Fibrinogen-Depleted, GMP-Compliant	50 mL	200-0322
	100 mL	200-0323
	500 mL	200-0324

Cryopreserved Diseased-State PBMCs^{4,5}

Description	Quantity	Catalog #
Rheumatoid Arthritis	10 million cells	70050
Ulcerative Colitis	10 million cells	70051
Crohn's Disease	10 million cells	70052
COPD	10 million cells	70053
Lupus (SLE)	10 million cells	70054
Osteoarthritis	10 million cells	70055
Psoriasis	10 million cells	70056
Asthma	10 million cells	70057
Celiac Disease	10 million cells	70058
Diabetes Type I	10 million cells	70061
Diabetes Type II	10 million cells	70062
Acute Myeloid Leukemia (AML)	Custom	200-0244
	5-19 million cells	200-0450
Myelofibrosis (MF)	Custom	200-0251
	5-19 million cells	200-0457
Diffuse Large B Cell Lymphoma (DLBCL)	Custom	200-0247
	5-19 million cells	200-0453
Follicular Lymphoma (FL)	Custom	200-0248
	5-19 million cells	200-0454
Multiple Myeloma (MM)	Custom	200-0250
	5-19 million cells	200-0456
Chronic Myelogenous Leukemia (CML)	Custom	200-0246
	5-19 million cells	200-0452
Acute Lymphoblastic Leukemia (ALL)	Custom	200-0243
	5-19 million cells	200-0449
Chronic Lymphocytic Leukemia (CLL)	Custom	200-0245
	5-19 million cells	200-0451
Mantle Cell Lymphoma (MCL)	Custom	200-0249
	5-19 million cells	200-0455
Solid Tumor Cancer	Custom	200-0403
	10 million cells	200-0402
	Whole blood, EDTA	200-0401
	Whole Blood, Heparin	200-0400

Diseased-State Human Blood Products^{4,5}

Description	Format	Quantity	Catalog #
Liver Cancer	Leukopak, Fresh	1 billion cells	200-0299
	PBMCs ² , Frozen	5-19 million cells	200-443
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0284 200-0269
	Custom, Frozen ⁴	-	200-0237
Lung Cancer	Leukopak, Fresh	1 billion cells	200-0300
	PBMCs ² , Frozen	5-19 million cells	200-444
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0285 200-0270
	Custom, Frozen ⁴	-	200-0238
Breast Cancer	Leukopak, Fresh	1 billion cells	200-0291
	PBMCs ² , Frozen	5-19 million cells	200-435
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0276 200-0261
	Custom, Frozen ⁴	-	200-0229
Cervical Cancer	Leukopak, Fresh	1 billion cells	200-0292
	PBMCs ² , Frozen	5-19 million cells	200-436
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0277 200-0262
	Custom, Frozen ⁴	-	200-0230
Melanoma	Leukopak, Fresh	1 billion cells	200-0301
	PBMCs ² , Frozen	5-19 million cells	200-445
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0286 200-0271
	Custom, Frozen ⁴	-	200-0239
Ovarian Cancer	Leukopak, Fresh	1 billion cells	200-0302
	PBMCs ² , Frozen	5-19 million cells	200-446
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0287 200-0272
	Custom, Frozen ⁴	-	200-0240
Bladder Cancer	Leukopak, Fresh	1 billion cells	200-0290
	PBMCs ² , Frozen	5-19 million cells	200-434
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0275 200-0260
	Custom, Frozen ⁴	-	200-0228
Prostate Cancer	Leukopak, Fresh	1 billion cells	200-0304
	PBMCs ² , Frozen	5-19 million cells	200-448
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0289 200-0274
	Custom, Frozen ⁴	-	200-0242
Esophageal Cancer	Leukopak, Fresh	1 billion cells	200-0295
	PBMCs ² , Frozen	5-19 million cells	200-439
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0280 200-0265
	Custom, Frozen ⁴	-	200-0233
Colorectal Cancer	Leukopak, Fresh	1 billion cells	200-0293
	PBMCs ² , Frozen	5-19 million cells	200-437
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0278 200-0263
	Custom, Frozen ⁴	-	200-0231

Diseased State Human Blood Products^{4,5}

Description	Format	Quantity	Catalog #
Head and Neck Cancer	Leukopak, Fresh	1 billion cells	200-0297
	PBMCs ² , Frozen	5-19 million cells	200-441
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0282 200-0267
Gastric Cancer	Leukopak, Fresh	1 billion cells	200-0296
	PBMCs ² , Frozen	5-19 million cells	200-440
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0281 200-0266
Kidney Cancer	Leukopak, Fresh	1 billion cells	200-0298
	PBMCs ² , Frozen	5-19 million cells	200-442
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0283 200-0268
Pancreatic Cancer	Leukopak, Fresh	1 billion cells	200-0303
	PBMCs ² , Frozen	5-19 million cells	200-447
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0287 200-0273
Endometrial Cancer	Leukopak, Fresh	1 billion cells	200-0294
	PBMCs ² , Frozen	5-19 million cells	200-438
	Whole Peripheral Blood, Fresh ^{3c,d}	Collection	200-0279 200-0264

Cell Thawing Instrument

Product	Catalog #
ThawSTAR® CFT2 Automated Thawing System ¹	100-0650
ThawSTAR® CFT2 Transporter ¹	100-0642
ThawSTAR® CFT2 Confirmation Vials ¹	100-0643
ThawSTAR® CFT2 IOPQ Kit ¹	100-0730

1. ThawSTAR® CFT2 is not available for sale in China, Hong Kong, Taiwan, Japan, or South Korea.
2. High-resolution HLA typing and CMV status are available upon request.
3. a) ACDA - Acid Citrate Dextrose Solution A; b) CP2D - Citrate-Phosphate-Double Dextrose; c) EDTA - Ethylenediaminetetraacetic Acid; d) Na Heparin - Sodium Heparin
4. Diseased states indicate PBMCs obtained from donors diagnosed with a given condition.
5. Certain cryopreserved products are only available in select territories. Please contact Product and Scientific Support (techsupport@stemcell.com) for further information.

Mobilized Peripheral Blood

Cryopreserved Mobilized Peripheral Blood Cells

Description	Quantity	Catalog #
G-CSF Mobilized Mononuclear Cells	5 million cells	70049.4
	15 million cells	70049.2
	25 million cells	70049.3
	50 million cells	70049.1
	100 million cells	70049
G-CSF Mobilized CD34 ⁺ Cells	0.2 million cells	70060.2
	1 million cells	70060.1
	5 million cells	70060
	10 million cells	70060.3
	20 million cells	70060.4
G-CSF and Plerixafor Mobilized Mononuclear Cells	5 million cells	70072.4
	15 million cells	70072.2
	25 million cells	70072.3
	50 million cells	70072.1
	100 million cells	70072
G-CSF and Plerixafor Mobilized CD34 ⁺ Cells	0.2 million cells	70073.2
	1 million cells	70073.1
	5 million cells	70073
	10 million cells	70073.3
	20 million cells	70073.4
Plerixafor Mobilized Mononuclear Cells	5 million cells	70074.4
	15 million cells	70074.2
	25 million cells	70074.3
	50 million cells	70074.1
	100 million cells	70074
Plerixafor Mobilized CD34 ⁺ Cells	0.2 million cells	70075.2
	1 million cells	70075.1
	5 million cells	70075
	10 million cells	70075.3
	20 million cells	70075.4

For a complete listing of primary cell products including mobilized peripheral blood products and culture cells, please visit www.stemcell.com/primarycells.

Quality, Ethically Sourced Human Primary Cells

All of our human primary cell products are ethically sourced using Informed Consent Forms (ICFs) and protocols approved by either an Institutional Review Board, the Food and Drug Administration (FDA), the U.S. Department of Health and Human Services, and/or an equivalent regulatory authority. Donations are performed in the United States in compliance with applicable federal, state, and local laws, regulations, and guidance. Donors are pre-screened for general health and viral status, including HIV-1, HIV-2, hepatitis B, and hepatitis C. Additional screening or analysis is available upon request. Most purified cells are isolated using column-free cell isolation technology and cryopreserved in defined, serum-free media. State-of-the-art equipment, including automated cryogenic storage systems and cryogenic sample carriers, ensures cold chain custody management and high sample integrity. Cells are shipped with a Certificate of Analysis indicating guaranteed Quality Control testing results, including cell count, viability, and purity. STEMCELL's Quality Management System is certified to ISO 13485, Medical Devices.

Donor Viral Screening Policy

Fresh Products: Donors are screened for HIV-1, HIV-2, hepatitis B, and hepatitis C. If the donor has been screened within 90 days prior to donation and the results are negative, the product will be shipped with the Certificate of Analysis (CoA). If the donor has not been screened prior to collection, a test sample will be taken at the time of donation and the product will be shipped before the screening results are available. In the unlikely event that a test result is positive, the customer will be contacted as soon as possible (usually within 2 - 4 business days from the time of shipment, and within 4 - 7 business days in the case of fresh LRS Cones).

Cryopreserved Products: Donors are screened for HIV-1, HIV-2, hepatitis B, and hepatitis C. If the donor has tested negative within 90 days prior to donation, the product will be shipped with the CoA.

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to Streamline Your
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