Cell Separation

In As Little As 15 Minutes

STEMCELL™ TECHNOLOGIES

Table of **Contents**

Scientists Helping Scientists™

STEMCELL Technologies is a leader in the development of specialty cell culture media, cell separation products and ancillary reagents for life science research. Driven by science, we deliver over 1500 products to more than 70 countries worldwide. To learn more about how STEMCELL Technologies helps to make research work, visit **www.stemcell.com**.

Ready·Sep·Go

Cell Separation in as Little as 15 Minutes

Isolate highly purified cells from a wide range of sample sources and sizes in as little as 15 minutes with the fast, easy and column-free cell separation platforms by STEMCELL Technologies.

FAST AND EASY. Cells are ready in as little as 15 minutes with no columns.

VERSATILE. Isolate cells directly from virtually any sample source, including whole blood and leukapheresis samples.

GENTLE. Highly purified viable cells are immediately ready for functional and biological studies.

EasySep™

Fast and Easy Immunomagnetic Cell Separation

The EasySep™ system isolates cells quickly and easily without the use of columns in as little as 15 minutes. With a simple pour, isolated functional cells are immediately ready for downstream use.

RoboSep™

Fully Automated Immunomagnetic Cell Separation

RoboSep™ fully automates all cell labeling and separation steps of the EasySep™ procedure, minimizing sample handling and freeing up technician time.

RosetteSep™

Unique Immunodensity Cell Separation

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

SepMate™

Hassle-Free PBMC Isolation

SepMate™ enables consistent and hassle-free peripheral blood mononuclear cell (PBMC) isolation in just 15 minutes, minimizing variability between separations.

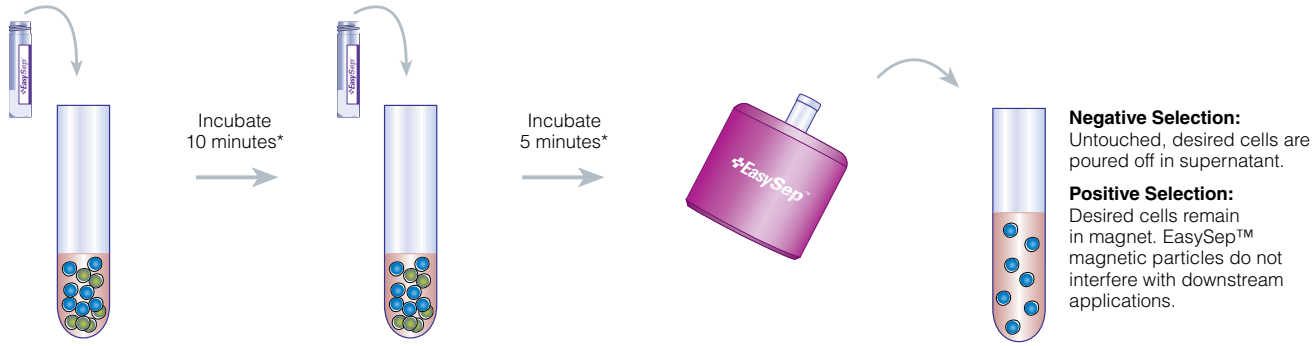
EasySep™ for Human Cells

Immunomagnetic Cell Isolation in as Little as 25 Minutes

EasySep™ combines the specificity of monoclonal antibodies with the simplicity of a column-free magnetic system for effortless isolation of highly purified cells that are immediately ready for downstream applications. Cells are cross-linked to EasySep™ magnetic particles using antibody complexes, and then easily separated from unwanted cells with an EasySep™ magnet.

Typical EasySep™ Human Cell Isolation Protocol

1. Add EasySep™ selection cocktail to single cell suspension
2. Add EasySep™ magnetic particles
3. Place tube in magnet for as little as 2.5 minutes*
4. Collect cells accordingly



*Times are typical for negative selection kits. Times for each kit will vary depending on the exact isolation protocol.

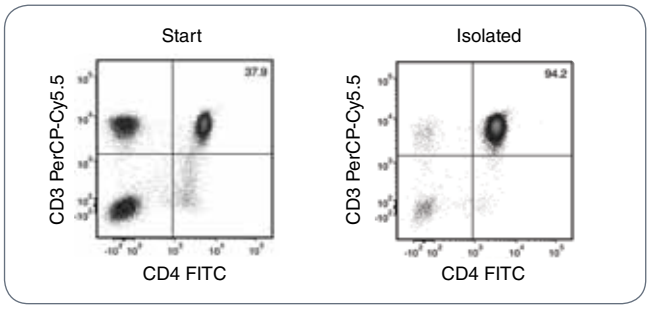


FIGURE 1. EasySep™ Human CD4⁺ T Cell Enrichment Kit (Catalog #19052)

Starting with peripheral blood mononuclear cells, the CD4⁺ T cell content of the isolated fraction typically ranges from 92% - 97%. In the example above, the purities of the start and isolated fractions are 37.9% and 94.2%, respectively.

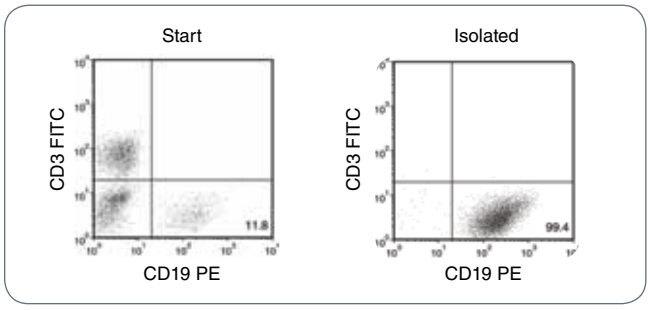


FIGURE 2. EasySep™ Human B Cell Enrichment Kit (Catalog #19054)

Starting with peripheral blood mononuclear cells, the CD19⁺ cell content of the isolated fraction typically ranges from 95 - 99%. In the example above, the purities of the start and isolated fractions are 11.8% and 99.4%, respectively.

Fast and Easy

Isolate cells without columns.

High Purity

Get purities of up to 99%.

Untouched Cells

Use unlabeled cells immediately in functional studies.

VIDEO

EasySep™ - Powerful Immunomagnetic Isolation of Virtually Any Cell Type
www.stemcell.com/EasySepVideo

STEMCELL™ TECHNOLOGIES

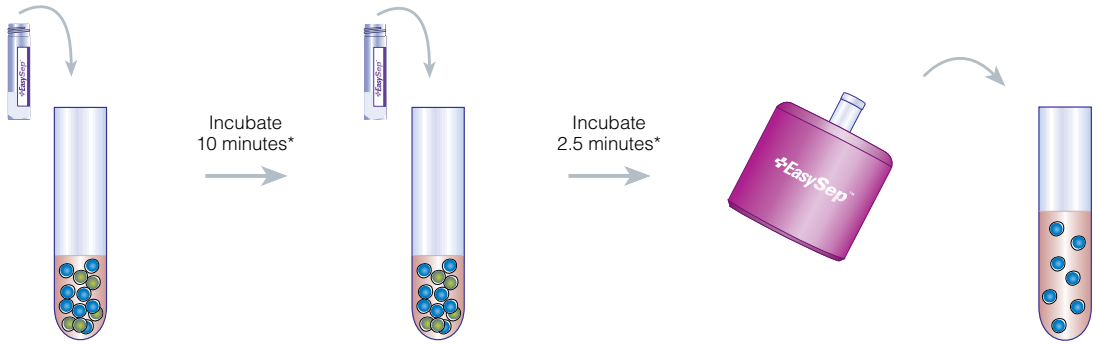
EasySep™ for Mouse Cells

Immunomagnetic Cell Isolation in as Little as 15 Minutes

EasySep™ kits are available for the isolation of mouse cells in as little as 15 minutes from a variety of sample sources, including bone marrow, lymph nodes, spleen and whole blood. Negative selection kits, including our new, next-generation EasySep™ kits, use biotinylated antibodies to target unwanted cells while positive selection kits use an antibody complex to select cells of interest.

Typical Next-Generation EasySep™ Mouse Cell Isolation Protocol

1. Add EasySep™ isolation cocktail to single cell suspension
2. Add EasySep™ Streptavidin RapidSpheres™
3. Place tube in magnet for 2.5 minutes*
4. Pour off desired fraction into a new tube



*Times are typical for negative selection kits. Times for each kit will vary depending on the exact isolation protocol.

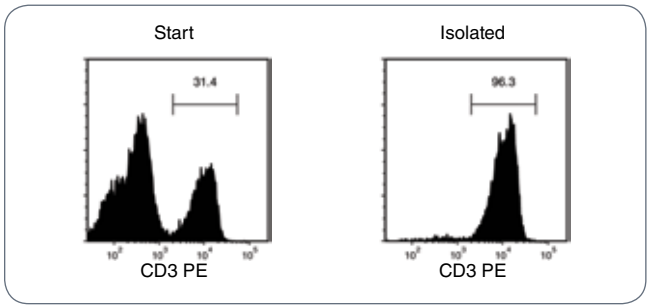


FIGURE 3. EasySep™ Mouse T Cell Isolation Kit (Catalog #19851)

Starting with mouse splenocytes, the T cell content of the isolated fraction typically ranges from 92 - 99%.

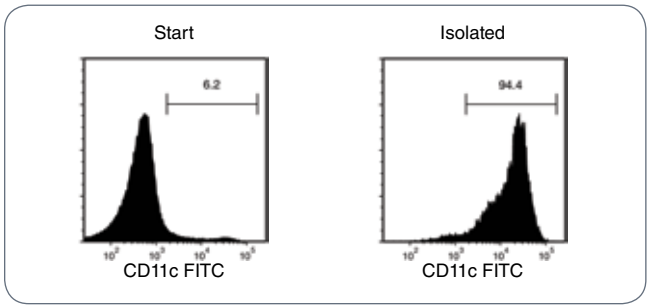


FIGURE 4. EasySep™ Mouse CD11c Positive Selection Kit II (Catalog #18780)

Starting with mouse splenocytes, the CD11c$^+$ cell content of the isolated fraction typically ranges from 87 - 98%.

Customized Cell Isolation of Virtually Any Cell Type From Any Species

Can't find the cell isolation kit you need? Our experienced scientists will work with you to create tailor-made products or modify existing kits to meet your needs. You can also use your own biotin-, PE-, APC- or FITC-conjugated antibody or any mouse antibody. Please see page 14 for details or visit us at **www.stemcell.com**.

RoboSep™

Fully Automated Immunomagnetic Cell Separation

Streamline your cell isolations using RoboSep™, the fully automated cell separator. By performing all EasySep™ cell labeling and separation steps, RoboSep™ maintains the speed and simplicity of EasySep™ while offering walk-away automation. This enables high-throughput and versatile isolation of highly purified cells. Minimize sample handling and eliminate cross-contamination while isolating cells with just 5 minutes of "hands-on" technologist time.

1

Select protocol. Load sample, EasySep™ selection cocktail, buffer and tips in carousel.

2

Press "Run".

3

Return in 25 to 60 minutes to collect your separated cells.

Fast and Efficient

Isolated cells are immediately available for flow cytometry, functional studies or other downstream analysis.

Simultaneous and Sequential Isolations

Simultaneous cell isolation from up to four samples in as little as 25 minutes, or sequential isolation of different cell types from the same sample.

Versatile and Safe

Positive or negative selection from virtually any cell type from any species or source, including whole blood, with minimal sample handling.

No Sample Contamination

By using disposable tips in a column-free system, RoboSep™ prevents sample cross-contamination.

Minimal Sample Handling

RoboSep™ fully automates all sample processing steps, reducing the potential risk of exposure to dangerous pathogens faced by researchers who handle biological samples.

Reduced "Hands-On" Time

In a busy lab, technologist and scientist time is at a premium. RoboSep™ can process up to 32 samples in an average working day, with only 2 - 5 minutes of hands-on time per isolation.

"Using our old system it would take up to 30 minutes per sample because of the volume and we'd have to be there all the time to load, unload and clean the machine. Now we can run four samples at once and have our enriched cells in an hour. We're a busy lab and RoboSep™ really saves us a lot of time."

Kim Henderson, Researcher
CLINICAL LAB, MIDWESTERN UNITED STATES

RoboSep™ Applications

How Researchers Are Using RoboSep™

RoboSep™ is the cell isolation instrument of choice for leading laboratories worldwide because it fully automates cell isolation, minimizes hands-on time for technicians, and enables high-throughput sample processing. These labs use RoboSep™ for a wide variety of applications, including:

- Safe isolation of HIV-infected T cells[1]
- Isolation of plasma cells to improve detection of cytogenetic abnormalities in multiple myeloma samples compared to column-based cell isolation systems[2]
- Isolation of multiple cell types from a single, undivided starting blood sample for chimerism analysis[3]

HIV Research Profiles

STEMCELL Technologies products are used by HIV research groups worldwide where top scientists are conducting studies using robust, physiologically relevant models performed with ex vivo primary cells. The insights gained through this research facilitate progress towards more effective treatments and represent some of the most promising avenues towards an HIV vaccine.

To learn more about how leading researchers are using cell isolation for more physiologically relevant HIV research, read our HIV Research Profiles at **www.stemcell.com/HIVResearchProfiles**.

Capacity

Positive Selection:

Processes up to 8 x 10^9 total cells (4 samples of up to 2 x 10^9 cells each).

Negative Selection:

Processes up to 4 x 10^9 total cells (4 samples of up to 1 x 10^9 cells each). *Negative and positive selections can be executed simultaneously.*

Sample Volume:

From 250 µL to 8.5 mL per sample.

POSTER
The Immune Response to HIV
www.stemcell.com/HIVPoster

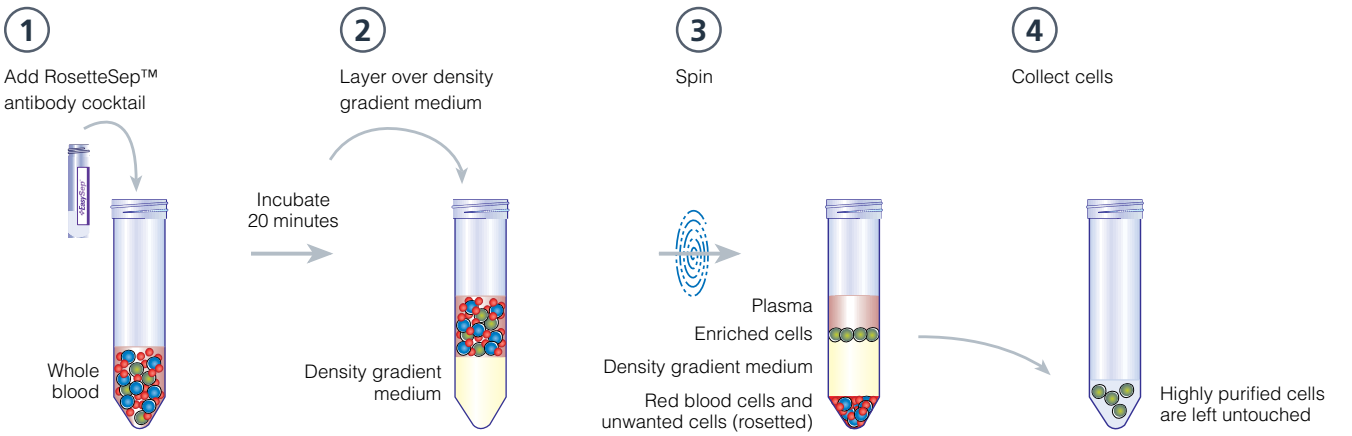
WEBSITE
See RoboSep™ in Action
www.robosep.com

RosetteSep™

Cell Isolation Directly from Whole Blood with a Simple Spin

RosetteSep™ is a fast and easy immunodensity procedure for the isolation of untouched cells directly from whole blood. By crosslinking unwanted cells to red blood cells (RBCs) present in the sample, RosetteSep™ eliminates the need for a separate magnetic separation step because cells are purified during standard density gradient centrifugation. This approach significantly reduces handling time and maximizes convenience.

Typical RosetteSep™ Protocol



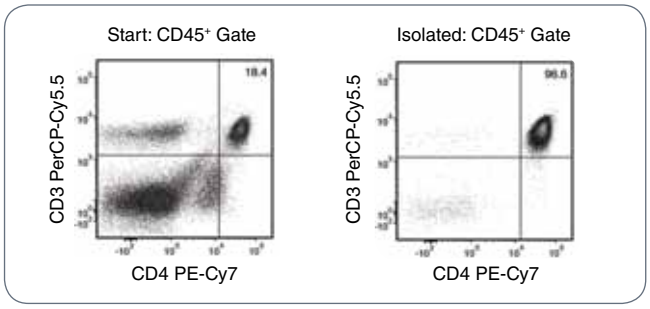


FIGURE 5. RosetteSep™ Human CD4+ T Cell Enrichment Cocktail (Catalog #15022)

Starting with whole peripheral blood, the CD4+ T cell content (gated on CD45+ cells) of the isolated fraction typically ranges from 81 - 97%. In the example above, the purities of the start and isolated fractions are 18.4% and 96.6%, respectively.

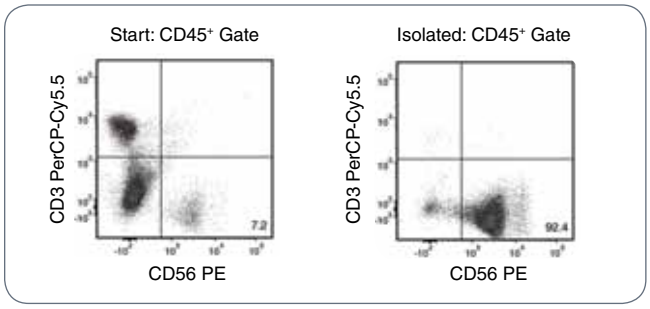


FIGURE 6. RosetteSep™ Human NK Cell Enrichment Cocktail (Catalog #15025)

Starting with whole peripheral blood, the NK cell content (gated on CD45+ cells) of the isolated fraction typically ranges from 80 - 98%. In the example above, the purities of the start and isolated fractions are 7.2% and 92.4%, respectively.

SepMate™

Hassle-Free PBMC Isolation

SepMate™ is a specialized cell processing tube that facilitates the isolation of PBMCs by density gradient centrifugation in just 15 minutes. SepMate™ tubes contain an insert that provides a barrier between the density gradient medium and blood. SepMate™ eliminates the need for careful layering of blood onto the density gradient medium, and allows for fast and easy harvesting of the isolated mononuclear cells with a simple pour.

RosetteSep™ and SepMate™

Cell Isolation Directly from Whole Blood in as Little as 25 Minutes

The RosetteSep™ and SepMate™ system is an innovative platform for rapid and consistent cell isolation from whole blood in as little as 25 minutes. The system combines a unique immunodensity cell isolation reagent (RosetteSep™) with a specialized cell processing tube (SepMate™) to minimize variability between users and allow efficient, high-throughput sample processing. This method isolates untouched and highly purified cells in a single step without columns or magnets, minimizing the risk of activating or damaging cells.

Typical RosetteSep™ and SepMate™ System Protocol

1

Incubate your blood sample with RosetteSep™ for 10 minutes at room temperature.

2

Add density gradient medium to SepMate™ tube, then rapidly pipet or pour the blood sample directly over the insert.

3

After a 10-minute centrifugation with the brake on, simply pour highly purified target cells into a new tube.

Fast and Easy

Isolate cells from whole blood in as little as 25 minutes with the RosetteSep™ and SepMate™ system.

Highly Viable and Functional Cells

Isolated cells are functional, unlabeled and flow cytometry-compatible.

No Special Training or Equipment

RosetteSep™ and SepMate™ can be used by anyone with minimal training. No columns, magnets or other special equipment are required.

VIDEO
RosetteSep™ and SepMate™ Introduction
www.stemcell.com/SepMateVideo

Technical Bulletin: A Novel System for High-Throughput Cell Isolation Directly from Blood in 25 Minutes

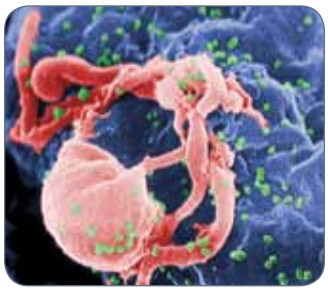
This technical bulletin presents data from Dr. Ajay Jain's lab at the University of Maryland School of Medicine, which used the RosetteSep™ and SepMate™ system to reduce NK cell isolation time from four hours to a single hour for a 450 mL unit of blood.

To download this technical bulletin, please visit **www.stemcell.com/CytotoxicityTB**.

Research and Applications

Fast and Easy Cell Separation Solutions

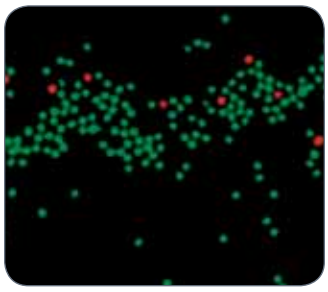
The fast, easy and column-free cell isolation platforms EasySep™, RoboSep™, RosetteSep™ and SepMate™ are gentle on cells and preserve cell viability, ensuring that isolated cells are suitable for downstream functional and biological studies.



Immunology and Infectious Disease Research

With a full range of products for the rapid and efficient isolation of both human and non-human immune cells, STEMCELL Technologies cell isolation platforms have supported studies on:

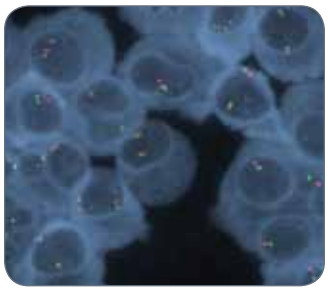
- Pathogens including HIV, influenza and other viruses, bacteria and parasites[4-11]
- Autoimmune diseases including diabetes, rheumatoid arthritis, multiple sclerosis and systemic lupus erythematosus[12-15]
- Cancer[16]



Chimerism and HLA Testing

STEMCELL Technologies provides highly optimized cell separation solutions that are suitable for:

- Chimerism analysis
- Flow Cytometry Crossmatch (FCXM)
- Serology-based assays



Hematological Malignancies

Scientists worldwide use STEMCELL Technologies cell isolation platforms to purify malignant immune cells, which can greatly improve the accuracy and reliability of research on:

- Multiple Myeloma[2]
- Chronic Lymphocytic Leukemia[17,18]
- Myelodysplastic Syndrome[19]

Assay Development

STEMCELL Technologies cell isolation products have been used to isolate highly purified cells from a variety of sample sources and sizes for:

- Drug discovery and development
- Immune cell-based assay development
- Vaccine development and testing

Equipment

EasySep™

EasySep™ Magnet

The EasySep™ Magnet is designed to hold one 5 mL polystyrene tube to isolate up to 2.5 x 10^8 cells (or up to 5 x 10^8 cells when isolating rare cells [e.g. $CD34^+$]) per separation. Catalog #18000

The Big Easy EasySep™ Magnet

"The Big Easy" EasySep™ Magnet is designed to hold one 14 mL polystyrene tube to isolate up to 10^9 cells (or up to 2 x 10^9 cells when isolating rare cells [e.g. $CD34^+$]) per separation. Catalog #18001

Easy 50 EasySep™ Magnet

The Easy 50 EasySep™ Magnet is designed to hold one 50 mL conical tube to isolate up to 4 x 10^9 cells by negative selection from whole blood, leukapheresis products or mouse splenocytes (or 2 x 10^9 cells from PBMC) per separation. Catalog #18002

EasyPlate™ EasySep™ Magnet

The EasyPlate™ EasySep™ Magnet, which is designed to hold a standard 96-well plate, enables high-throughput cell isolation from small sample sizes (up to 2 x 10^7 cells per well). Catalog #18102

EasySep™ Multistand

Separate up to 4 samples at once using the EasySep™ Multistand. The multistand is designed to hold up to 4 EasySep™ Magnets or 4 "The Big Easy" EasySep™ Magnets. Catalog #18010

EasySep™ EasyStand™

Separate up to 6 samples at once using the EasySep™ EasyStand™. Each EasyStand™ can hold a single EasySep™ Magnet, and up to 6 EasyStands™ can be linked together. Catalog #18130

RoboSep™

System is Supplied With:

- RoboSep™ Carousel
- Hydraulic Fluid Bottle
- One-Year Warranty
- RoboSep™ Accessory Kit
  - 4 "The Big Easy" EasySep™ Magnets
  - 2 Boxes of RoboSep™ Filter Tip Racks (16 Filter Tip Racks in total)
  - RoboSep™ Buffer (250 mL)
  - RoboSep™ Service Rack
  - USB Keyboard, Mouse, Memory Stick
  - Magnet Shields
  - Tip Head Polishing Compound
  - User Manual
  - RoboSep™ Timer
  - Quick Start Sheet

RoboSep™ & Accessories

PRODUCT NAME	CATALOG #
RoboSep™	20000
RoboSep™ Warranty	20200
RoboSep™ Warranty with Preventative Maintenance	20202
RoboSep™ Preventative Maintenance (No Warranty)	20203
RoboSep™ Preventative Maintenance (Active Warranty)	20209
RoboSep™ Service Rack	20101
Hydraulic Fluid Bottle	20102
RoboSep™ Buffer (250 mL) [1]	20104
RoboSep™ Buffer 5X Concentrate (250 mL)	20124
RoboSep™ Filter Tip Racks (1 box of 8 racks) [1]	20125
EasySep™ RBC Lysis Buffer 10X Concentrate (100 mL) [2]	20120
RoboSep™ Tip Head Polishing Compound (7 mL)	20119

1. RoboSep™ Buffer and 1 - 2 boxes of RoboSep™ Filter Tip Racks are included with every purchase of a RoboSep™ Reagent Kit.
2. 10 mL of 10X RBC Lysis Buffer is included with every purchase of an EasySep™ or RoboSep™ Whole Blood Selection Kit (see pages 12 - 13).

Technical Specifications:

DIMENSIONS:

- Height with lid: 56 cm (21 7⁄8″)
- Width: 71 cm (27 7⁄8″)
- Depth: 39 cm (15 3⁄8″)
- Weight: 26 kg (57 lb)

POWER REQUIREMENTS:

- 50/60 Hz, AC 100-240V
- Connections: RJ-45 10/100 Ethernet port, 2 USB ports

CONDITIONS FOR OPERATION:

- Temperature: 10 - 30°C (50 - 86°F). RoboSep™ is not specified for use in a cold room (4°C, 39°F)
- Humidity 20 - 85% (non-condensing)

Human **Negative** Selection

CELL TYPE		TYPICAL PERFORMANCE DATA	REAGENT KIT [1]
	TISSUE [2]	% PURITY [3]	CATALOG #
T Cells	PBMC	95 - 99	19051 19051RF
$CD4^+$ T Cells	PBMC	92 - 97	19052 19052RF
$CD4^+CD127^{low}$ T Cells	PBMC	86 - 97	19231 19231RF
$CD4^+CD127^{low}CD49d^-$ T Cells	PBMC	52 - 87	19232 19232RF
Naïve $CD4^+$ T Cells	PBMC	91 - 95	19155 19155RF
Memory $CD4^+$ T Cells	PBMC	86 - 98	19157 19157RF
$CD8^+$ T Cells	PBMC	84 - 95	19053 19053RF
Naïve $CD8^+$ T Cells	PBMC	85 - 92	19158 19158RF
Memory $CD8^+$ T Cells	PBMC	72 - 92	19159 19159RF
Gamma/Delta T Cells	PBMC	90 - 97	19255 19255RF
B Cells	PBMC	95 - 99	19054 19054RF
Pan-B Cells	PBMC	90 - 99	19554 19554RF
B Cells without CD43 Depletion [4]	PBMC	87 - 98	19154 19154RF
Naïve B Cells	PBMC	92 - 98	19254 19254RF
NK Cells	PBMC	73 - 95	19055 19055RF
Monocytes	PBMC	83 - 95	19059 19059RF
Monocytes without CD16 Depletion	PBMC	73 - 81	19058 19058RF
Pan-Dendritic Cells [5]	PBMC	40 - 80	19251 19251RF
Myeloid Dendritic Cells	PBMC	79 - 94	19061 19061RF
Plasmacytoid Dendritic Cells	PBMC	87 - 97	19062 19062RF
Pan-Granulocytes	PMNC	96 - 99	19259 19259RF
Eosinophils	PMNC	90 - 99	19256 19256RF
Basophils	PMNC	92 - 99	19069 19069RF
Neutrophils	PMNC	98 - 99	19257 19257RF
Hematopoietic Progenitor Cells	BM	37 - 47	19056 19056RF
Hematopoietic Progenitor Cells with CD41 Depletion	CB	50 - 75	19356 19356RF
Human Custom Enrichment Kit	-	Use a custom antibody cocktail	19309 19309RF

Each kit contains enough reagents to select desired cells from 10^9 total cells, except for Catalog #18056, #18167 and #18561, which can process up to 5 x 10^9 cells, and Catalog #19232, #19061, #19062, #18164, #18096, #18357 and #18659, which can process up to 2 x 10^9 cells. Kits contain human Fc receptor blocker when necessary to prevent non-specific binding.

1. RoboSep™ Reagent Kits contain an EasySep™ Selection Kit with RoboSep™ Buffer and 1-2 boxes of RoboSep™ Tip Racks.
2. PBMC - peripheral blood mononuclear cells; PMNC - polymorphonuclear cells; BM - bone marrow; CB - cord blood; WB - whole blood.
3. Combined purity data of EasySep™ and RoboSep™ kits (when available).
4. Recommended for use with CLL and other abnormal samples.
5. Pre-enrichment kit optimized for maximum cell recovery; subsequent cell sorting may be required.
6. RosetteSep™ enriched (Catalog #15062).

Human **Positive** Selection

CELL TYPE		TYPICAL PERFORMANCE DATA	REAGENT KIT [1]
	TISSUE [2]	% PURITY [3]	CATALOG #
$CD2^+$ Cells	PBMC	86 - 98	18657 18657RF
$CD3^+$ Cells	PBMC	99 - 100	18051 18051RF
$CD4^+$ Cells	PBMC	97 - 99	18052 18052RF
$CD8^+$ Cells	PBMC	94 - 100	18053 18053RF
$CD10^+$ Cells	Mammary	84 - 98	18358
$CD14^+$ Cells	PBMC	98 - 100	18058 18058RF
$CD19^+$ Cells	PBMC	97 - 99	18054 18054RF
$CD19^+$ $CD27^+$ (Memory B Cells)	PBMC	85 - 95	18164 18164RF
Th1 Cells	PBMC	85 - 95	18161 18161RF
Th17 Cells	PBMC	85 - 94	18162 18162RF
$CD4^+CD25^{high}$ Cells	PBMC	90 - 98	18062 18062RF
$CD25^{high}$ Cells	$CD4^+$ T cells [6]	90 - 98	18231 18231RF
Pan-$CD25^+$ Cells	PBMC	90 - 96	18251 18251RF
$CD33^+$ Cells	Lysed WB	93 - 97	18257 18257RF
Myeloid Cells ($CD33^+$ & $CD66b^+$)	PBMC	96 - 99	18653 18653RF
$CD34^+$ Cells	Mobilized WB or PBMC	85 - 99	18056 180556RF
	Frozen CB	84 - 99	
	Fresh CB	81 - 98	18096 18096RF
hESC-Derived $CD34^+$ Cells	Differentiated hES & hiPS cell cultures	97	18167
hESC/iPSC $SSEA\text{-}4^+$ Cells	hES & hiPS cell cultures	85 - 95	18165
hESC/iPSC $Tra\text{-}1\text{-}60^+$ Cells	hES & hiPS cell cultures	96 - 99	18166
$CD56^+$ Cells	PBMC	86 - 98	18055 18055RF
$CD138^+$ Cells (Syndecan-1)	PBMC/BM	85 - 95	18357 18357RF
$CD271^+$ Cells	BM	-	18659
$EpCAM^+$ Cells	Mammary	92 - 94	18356 18356RF
$MUC1^+$ Cells	Mammary	96 - 98	18359
Glycophorin A Depletion	WB/BM	2 - 4 log depletion	18352 18352RF
PE Selection	Use with PE-conjugated antibodies		18551 18551RF
PE Selection (Large)	Labels 5 x 10^9 cells		18561 18561RF
FITC Selection	Use with FITC-conjugated antibodies		18552 18552RF
Biotin Selection	Use with biotinylated antibodies		18553 18553RF
APC Selection	Use with APC-conjugated antibodies		18451 18451RF
"Do-It-Yourself" Selection	Use your own mouse IgG_1 antibody		18099 18099RF
Human Custom Selection Kit	Isolate any human cell type by positive selection		18309 18309RF

Kits for **Whole Blood** Samples

CELL TYPE	TYPICAL PERFORMANCE DATA	REAGENT KIT[1]
	% PURITY[2]	CATALOG #
$CD2^+$ Cells	96 - 100	18687 18687RF
$CD3^+$ Cells	98 - 100	18081 18081RF
$CD4^+$ Cells	97 - 100	18082 18082RF
$CD4^+CD25^{high}$ Cells	90 - 98	15862 15862RF
$CD4^+CD127^{low}CD25^{high}$ Cells	84 - 93	15861 15861RF
$CD4^+CD127^{low}CD49d^-CD25^{high}$ Cells	85 - 95	15864 15864RF
$CD8^+$ Cells	97 - 100	18083 18083RF
$CD14^+$ Cells	97 - 100	18088 18088RF
$CD15^+$ Cells	96 - 100	18681 18681RF
$CD19^+$ Cells	94 - 100	18084 18084RF
$CD20^+$ Cells	96 - 100	18685 18685RF
$CD33^+$ Cells	82 - 97	18287 18287RF
$CD34^+$ Cells	52 - 90	18086 18086RF
$CD34^+$ Cells (High Purity)	79 - 95	15086 15086RF
Cord Blood $CD34^+$ Cells	75 - 96	18096 18096RF
$CD56^+$ Cells[3]	90 - 100	18085 18085RF
$CD66b^+$ Cells	99 - 100	18682 18682RF
$CD138^+$ Cells (Syndecan-1)	89 - 98	18387 18387RF
Myeloid ($CD33^+$ & $CD66b^+$)	94 - 99	18683 18683RF
Lymphoid ($CD3^+$ & $CD19^+$)	98 - 100	18684 18684RF
CD45 Depletion[3]	2-4 log depletion	18289 18289RF

Each WB kit contains enough reagents to process 60 mL of whole blood, except Catalog #15862, #15861, #15864, #19961HLA, #19951HLA and #19954HLA, which can process 200 mL of whole blood, Catalog #18088, #18085 and #18085HLA, which can process 30 mL of BC, Catalog #18086, which can process 75 mL of WB or 37 mL of BC, Catalog #15086, which can process 120 mL of WB, Catalog $18085 which can process up to 2 x 10^9 cells, and Catalog #18289, which can proccess up to 100 mL of WB. Each HLA (PBMC) kit contains enough reagents to process 10^9 cells, except Catalog #18056, which can process up to 5 x 10^9 cells.

1. EasySep™ Reagent Kits include a bottle of EasySep™ RBC Lysis Buffer* 10X concentrate. RoboSep™ Reagent Kits contain an EasySep™ Selection Kit with 1-2 boxes of RoboSep™ Tip Racks and RoboSep™ Buffer.
2. Combined EasySep™ and RoboSep™ purity data (when available).
3. Contains HetaSep™ in place of EasySep™ RBC Lysis Buffer 10X concentrate.
4. PBMC - peripheral blood mononuclear cells; WB - whole blood; BC - buffy coat.

*EasySep™ RBC Lysis Buffer may be purchased separately (10X concentrate, 100 mL), Catalog #20120.

Kits for **HLA** Analysis

CELL TYPE		TYPICAL PERFORMANCE DATA	REAGENT KIT[1]
	TISSUE[4]	% PURITY[2]	CATALOG #
POSITIVE			
$CD2^+$ Cells	PBMC	86 - 98	18657HLA 18657HLARF
	WB	96 - 100	18687HLA 18687HLARF
$CD3^+$ Cells	PBMC	95 - 100	18051HLA 18051HLARF
	WB	93 - 99	18081HLA 18081HLARF
$CD3^+$/$CD19^+$ Cells	WB	98 - 100	18684HLA 18684HLARF
$CD15^+$ Cells	WB	98 - 100	18681HLA 18681HLARF
$CD19^+$ Cells	PBMC	97 - 99	18054 18054RF
	WB	94 - 100	18084 18084RF
$CD19^+$/$CD20^+$ Cells	PBMC	82 - 99	18454HLA 18454HLARF
	WB	86 - 97	18184HLA 18184HLARF
$CD33^+$ Cells	PBMC	93 - 97	18257 18257RF
	WB	83 - 98	18287HLA 18287HLARF
Myeloid Cells ($CD33^+$ & $CD66b^+$)	WB	94 - 99	18683HLA 18683HLARF
$CD34^+$ Cells	PBMC	84 - 99	18056 18056RF
	WB	52 - 90	18086 18086RF
$CD56^+$ Cells	PBMC	86 - 98	18055 18055RF
	BC	90 - 100	18085HLA 18085HLARF
$CD66b^+$ Cells	WB	99 - 100	18682 18682RF
NEGATIVE			
Total Lymphocytes	WB	90 - 97	19961HLA 19961HLARF
T Cells	PBMC	95 - 99	19051HLA 19051HLARF
	WB	93 - 98	19951HLA 19951HLARF
B Cells	PBMC	95 - 99	19054HLA 19054HLARF
	WB	82 - 100	19954HLA 19954HLARF
DEPLETION			
Glycophorin A Depletion	PBMC	-	18352 18352RF

Please see page 15 for RosetteSep™ HLA cocktails.

Mouse **Negative** Selection

CELL TYPE	TISSUE [2]	TYPICAL PERFORMANCE DATA % PURITY [3]	REAGENT KIT [1] CATALOG #
T Cells	Spleen	92 - 98	19851/19851RF
	Spleen	95 - 99	19751/19751RF
CD4+ T Cells	Spleen	89 - 96	19852/19852RF
	Spleen	89 - 96	19752/19752RF
Naïve CD4+ T Cells	Spleen	90 - 95	19765/19765RF
CD8+ T Cells	Spleen	87 - 95	19853/19853RF
	Spleen	84 - 95	19753/19753RF
Naïve CD8+ T Cells	Spleen	92 - 98	19858/19858RF
B Cells	Spleen	94 - 98	19854/19854RF
	Spleen	91 - 96	19754/19754RF
NK Cells	Spleen	75 - 87	19755
Monocytes	BM	80 - 93	19761/19761RF
	WB	92 - 98	
Pan-Dendritic Cells	Spleen	54 -76	19763/19763RF
Plasmacytoid Dendritic Cells	Spleen	62 - 94	19764/19764RF
Neutrophils	BM	80 - 90	19762/19762RF
	WB	83 - 94	
Hematopoietic Progenitor Cells	BM	76 - 92	19756/19756RF
Epithelial Cells	Epithelial	≤1% targeted cells	19758
Mammary Stem Cells[4]	Mammary gland	1 stem cell per 20 - 90 sorted cells	19757
Mesenchymal Stem/ Progenitor Cells	BM	50 - 99	19771
Mouse Custom Enrichment Kit	Isolate any mouse cell type by negative selection		19709/19709RF

Other Species **Positive** Selection

PRODUCT NAME	DESCRIPTION	REAGENT KIT [1] CATALOG #
PE Selection Kit	Use with PE-conjugated antibodies	18557/18557RF
FITC Selection Kit	Use with FITC-conjugated antibodies	18558/18558RF
Biotin Selection Kit	Use with biotinylated antibodies	18559/18559RF
APC Selection Kit	Use with APC-conjugated antibodies	18453/18453RF
"Do-It-Yourself" Selection Kit	Use your own mouse IgG_1 antibody	18098/18098RF
Rat Custom Selection Kit	Isolate any rat cell type by positive selection	19609
Rhesus Custom Selection Kit	Isolate any non-human primate cell type by positive selection	19809

Mouse **Positive** Selection

CELL TYPE	TISSUE [2]	TYPICAL PERFORMANCE DATA % PURITY [3]	REAGENT KIT [1] CATALOG #
CD4+ Cells	Spleen	94 - 99	18752/18752RF
CD4+CD25+ Cells	Spleen	85 - 97	19782
CD4+CD25+ (Large)	Spleen	85 - 97	19792
CD8a Cells	Spleen	90 - 98	18753/18753RF
CD11b+ Cells	Spleen	92 - 96	18770/18770RF
CD11c+ Cells	Spleen	87 - 98	18780/18780RF
	Cultured BM	87 - 98	18758/18758RF
CD11c+ with Spleen Dissociation Medium	Spleen	87 - 98	18768/18768RF
CD19+ Cells	Spleen	97 - 99	18754/18754RF
$CD25^{high}$ Cells	CD4+ T cells [5]	95 - 97	18761
CD49b+ (DX5) Cells	Spleen	88 - 97	18755/18755RF
CD90+ (Thy 1.2)	Spleen	96 - 99	18751/18751RF
CD117+ (cKIT) Cells	BM	88 - 95	18757/18757RF
CD93+ (AA4.1) Cells	BM	87 - 99	18762/18762RF
	Fetal liver	74 - 97	
SCA1+ Cells	BM	87 - 97	18756/18756RF
SCA1 Biotin	BM	80 - 98	18856/18856RF
PE Selection	Use with PE-conjugated antibodies		18554/18554RF
PE Selection (Large)	Labels 5 x 10^9 cells		18564/18564RF
FITC Selection	Use with FITC-conjugated antibodies		18555/18555RF
Biotin Selection	Use with biotinylated antibodies		18556/18556RF
APC Selection	Use with APC-conjugated antibodies		18452/18452RF
Mouse Custom Selection Kit	Isolate any mouse cell type by positive selection		18709/18709RF

Mouse Positive Selection Kits contain enough reagents to select desired cells from 2 x 10^9 total cells, except Catalog #19782, #18554, #18555, #18556 and #18452, which can process up to 10^9 cells, Catalog #19792, which can process up to 4 x 10^9 cells, and Catalog #18564, which can process up to 5 x 10^9 cells. Mouse Negative Selection Kits and Other Species Positive Selection Kits contain enough reagents to enrich desired cells from 10^9 total cells, except Catalog #19763 and #19764, which can process up to 2 x 10^9 cells, and Catalog #19771, which can process up to 4 x 10^8 cells. Kits contain mouse Fc receptor blocker when necessary to prevent non-specific binding.

1. RoboSep™ Reagent Kits contain an EasySep™ Selection Kit with RoboSep™ Buffer and 1-2 boxes of RoboSep™ Tip Racks.
2. BM - bone marrow; WB - whole blood.
3. Combined purity data of EasySep™ and RoboSep™ kits (when available).
4. Kits contain pre-enrichment cocktail and two fluorescently-labeled antibodies for subsequent cell sorting.
5. EasySep™ enriched (Catalog #19772).

RosetteSep™ Product Listing

Human **Negative** Selection

ENRICHMENT COCKTAILS	CATALOG #	
	TO LABEL 40 ML OF BLOOD	TO LABEL 200 ML OF BLOOD
T Cells	15021	15061
CD4+ T Cells	15022	15062
CD8+ T Cells	15023	15063
CD4+CD25+ Regulatory T Cells	-	15862
B Cells	15024	15064
NK Cells	15025	15065
Total Lymphocytes	15223	15263
Monocytes	15028	15068
Progenitor Cells from Cord Blood	15026	15066
De-Bulking Cord Blood for Freezing	15126	15166
Progenitor Cells from Bone Marrow	15027	15067
Mesenchymal Stem Cells from Bone Marrow	15128	15168
Multiple Myeloma (B and Plasma) Cells from Bone Marrow	15129	15169
Circulating Epithelial Tumor Cells (Extensive Enrichment)	15127	15167
Circulating Epithelial Tumor Cells (CD45 Depletion)	15122	15162
Any Cells (Custom)	15309	-
DEPLETION COCKTAILS [1]	**TO LABEL 40 ML OF BLOOD**	**TO LABEL 200 ML OF BLOOD**
CD3+ Cell Depletion	15621	15661
CD4+ Cell Depletion	15622	15662
CD8+ Cell Depletion	15623	15663
Granulocyte Depletion (CD66b)	15624	15664
Monocyte Depletion (CD36)	15628	15668
IgE Depletion	15230	-
HLA COCKTAILS	**TO LABEL 250 ML OF BLOOD**	**TO LABEL 1000 ML OF BLOOD**
T Cell Enrichment	15061HLA	15081HLA
B Cell Enrichment	15064HLA	15084HLA
Total Lymphocyte Enrichment	15263HLA	15283HLA
Lymphoid Enrichment	15271HLA	-
Myeloid Enrichment	15272HLA	-
Granulocyte Depletion	15664HLA	15684HLA
SUPPORT REAGENTS		
Lymphoprep™	07801 (250 mL) 07811 (4 x 250 mL) 07851 (500 mL) 07861 (6 x 500 mL)	
RosetteSep™ DM-L	15705 (100 mL)	
RosetteSep™ DM-M	15725 (100 mL)	
HetaSep™	07906 (100 mL)	

1. Depletion cocktails can be added to a standard RosetteSep™ cocktail, if not already present.

SepMate™

SepMate™ is a specialized cell processing tube that facilitates the isolation of PBMCs or specific cell types by density gradient centrifugation. Catalog #15450 (20 tubes), #15460 (100 tubes)

Antibodies

Cell isolation and cell culture are essential steps for cutting-edge cell-based research. Screening antibodies shouldn't be. Don't waste valuable research time finding the appropriate antibody for your cell analysis.

STEMCELL Technologies now offers a line of high-quality primary and secondary antibodies that are verified to work with our cell isolation and cell culture reagents in specific applications, ensuring that your downstream cell analysis, including phenotyping and purity assessments, works consistently.

Visit **www.stemcell.com/Antibodies** to learn more.

References

1. A. Sáez-Cirión et al., Nat. Protoc. 5,1033 (2010)
2. S. Shetty et al., Int. J. Hematol. 95, 274 (2012)
3. N. Daguindau et al., Clin. Immunol. 128, 164 (2008)
4. T-W. Chun et al., AIDS. 24, 2803 (2010)
5. S. Sasaki et al., J. Clin. Invest. 121, 3109 (2011)
6. B. Oliviero et al., J. Hepatol. 55, 53 (2011)
7. L.J. Walker et al., Blood. 119, 422 (2012)
8. H. Jiafen et al., J. Immunol. 177, 8037 (2006)
9. S.L. Newman et al., J. Immunol. 176, 1806 (2006)
10. G. Magri et al., Blood. 117, 848 (2011)
11. J.P. Gigley et al., Infect. Immun. 77, 5380 (2009)
12. D.E. De Almeida et al., J. Immunol. 185, 1927 (2010)
13. M. Heinig et al., Nature. 467, 460 (2010)
14. H. Mkhikian et al., Nat. Commun. 2, 334 (2011)
15. A. Doreau et al., Nat. Immunol. 10, 778 (2009)
16. L.A. Honigberg et al., Proc. Natl. Acad. Sci. U.S.A. 107, 13075 (2010)
17. D. Asslaber et al., Blood. 11, 4191 (2010)
18. L. Shao et al., J. Mol. Diagn. 12, 670 (2010)
19. H. Makishima et al., Leuk. Res. 34, 447 (2010)

Scientists Helping Scientists™ | WWW.STEMCELL.COM

TOLL-FREE PHONE 1 800 667 0322 • PHONE 1 604 877 0713
TECHSUPPORT@STEMCELL.COM • INFO@STEMCELL.COM

FOR FULL CONTACT DETAILS WORLDWIDE VISIT OUR WEBSITE

DOCUMENT #28960 VERSION 6.0.0 MARCH 2013