

SOLUTIONS FOR HIV RESEARCH

HIV research often requires cell isolation procedures that minimize sample handling in order to **avoid cross-contamination** of samples and exposure to virus. RoboSep[®], from STEMCELL Technologies, is a powerful tool for rapidly isolating purified immune cells affected by HIV with minimum human manipulation. RoboSep[®] **fully automates** cell isolation procedures by using a robotic pipettor to perform all cell labeling and magnetic separation steps in a **column-free system**. Only 5 minutes of technical “hands-on” time is required per run. RoboSep[®] can process up to 4 different cell types at once from a variety of sources including peripheral blood mononuclear cells, whole blood, and buffy coat. The instrument can fit into a standard laminar flow hood for sterile operation, and uses **disposable plastic-ware tips** - instead of multi-use columns and tubing – to **ensure safe handling of blood products** and avoid sample cross-contamination. After completion of the cell separation cycle, the cells of interest are immediately available for further studies.

Optimized reagents and protocols are available for isolation of highly purified **CD4⁺ T cells, CD8⁺ T cells, Naïve or Memory CD4⁺ T cells, Regulatory CD4⁺CD25⁺ T cells, Monocytes, Dendritic cells, NK cells, B cells**, and more.



ADVANTAGES

MINIMIZE SAMPLE HANDLING

Fully automates all cell labeling and separation steps to reduce “hands-on” time and virus exposure.

ELIMINATES SAMPLE CROSS-CONTAMINATION

Sterile, single-use disposable plastic-ware is the only thing that comes in contact with your samples.

LOW MAINTENANCE

The robotic pipettor requires no washing or user-servicing.



THE CELL EXPERTS™ | WWW.STEMCELL.COM

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HUMAN CELL SEPARATION KITS

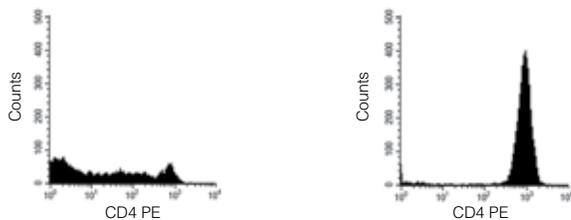
RoboSep[®] uses EasySep[®] immunomagnetic technology, which is an extremely versatile system that combines the specificity of monoclonal antibodies with the simplicity of a **column-free** magnetic system to isolate cells from any source. Kits are available for the positive selection of targeted cells or the enrichment of untouched cells through negative selection for all sample types including **whole blood** and **peripheral blood mononuclear cells**.

Starting With Peripheral Blood Mononuclear Cells

STEMCELL Technologies offers pre-optimized kits for the positive or negative selection of: **T cells, CD4⁺ T cells, CD8⁺ T cells, NK cells, Monocytes, Dendritic cells, and B cells**.

In addition, kits are available for the isolation of: **Naïve CD4⁺ T cells, Memory CD4⁺ T cells, and Regulatory CD4⁺CD25⁺ T cells**.

FACS Histogram Results Using EasySep[®] Human CD4⁺ T Cell Enrichment Kit
 Start: 18% CD4⁺ Cells Enriched: 97% CD4⁺ Cells

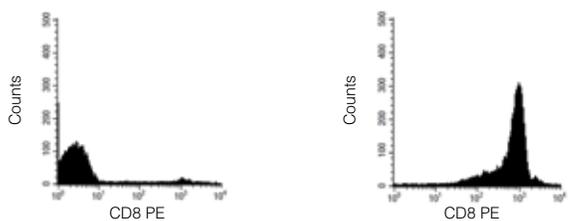


Starting with frozen mononuclear cells, the CD4⁺ T cell content of the enriched fraction typically ranges from 93% - 99%.

Starting With Whole Blood

A number of optimized human positive selection kits are available for use with **whole blood** - all designed to minimize sample handling. Simply lyse the red blood cells in your sample with the buffer provided before proceeding immediately to cell separation - in the same tube! Whole blood positive selection kits are available for: **T cells, CD4⁺ cells, CD8⁺ cells, CD14⁺ cells, CD19⁺ cells, CD56⁺ cells**, and more.

FACS Histogram Results Using EasySep[®] Human CD8 Whole Blood Selection Kit
 Start: 6.2% CD8⁺ Cells Selected: 99.4% CD8⁺ Cells



Starting with fresh whole blood, the CD8⁺ cell content of the selected fraction typically ranges from 97.1% - 99.9%.

NON-HUMAN PRIMATE CELL SEPARATION KITS

A wide selection of antibodies is available for custom separation of monkey cells from fresh or previously frozen peripheral blood mononuclear cells. Contact STEMCELL Technologies for more information on how to isolate **CD4⁺ T cells, CD8⁺ T cells, Regulatory T cells**, and other cell types from Rhesus or Cynomolgus monkey using our **RoboSep[®] Monkey Custom Kit (Catalog #19809RF)**.

Products For HIV Research

HUMAN CELL TYPE	SELECTION METHOD	SAMPLE	% PURITY ¹	ROBOSEP ^{®2} REAGENT KIT ³ (CATALOG #)
T cells	Positive (CD2 ⁺)	Whole Blood ⁴	95.7 - 99.6	18687RF
	Positive (CD2 ⁺)	PBMC ⁵	86.3 - 98.0	18657RF
	Positive (CD3 ⁺)	Whole Blood	98.2 - 99.8	18081RF
	Positive (CD3 ⁺)	PBMC	95.0 - 99.8	18051RF
	Negative	PBMC	97.5 - 99.5	19051RF
CD4 ⁺ T cells	Positive (CD4 ⁺)	Whole Blood	97.1 - 99.9	18082RF
	Positive	PBMC	96.0 - 99.9	18052RF
	Negative	PBMC	92.5 - 98.6	19052RF
CD8 ⁺ T cells	Positive (CD8 ⁺)	Whole Blood	97.1 - 99.6	18083RF
	Positive (CD8 ⁺)	PBMC	92.0 - 99.6	18053RF
	Negative	PBMC	82.7 - 98.2	19053RF
Naïve CD4 ⁺ T cells	Negative	PBMC	81.5 - 97.0	19155RF
Memory CD4 ⁺ T cells	Negative	PBMC	86.0 - 98.0	19157RF
Regulatory CD4 ⁺ CD25 ⁺ T cells	Positive	Whole Blood	90.0 - 98.0	15862RF
B cells	Positive (CD19 ⁺)	Whole Blood	94.3 - 99.6	18084RF
	Positive (CD19 ⁺)	PBMC	95.0 - 99.4	18054RF
	Negative	PBMC	97.9 - 99.5	19054RF
NK cells	Positive (CD56 ⁺)	Whole Blood	89.7 - 99.8	18085RF
	Positive (CD56 ⁺)	PBMC	85.0 - 98.0	18055RF
	Negative	PBMC	90.0 - 97.0	19055RF
Monocytes	Positive (CD14 ⁺)	Buffy Coat ⁶	96.5 - 99.6	18088RF
	Positive (CD14 ⁺)	PBMC	91.0 - 99.6	18058RF
	Negative	PBMC	83.0 - 95.0	19059RF
	Negative (without CD16 Depletion)	PBMC	73.0 - 81.0	19058RF
Pan-Dendritic cells	Negative	PBMC	40.0 - 80.0	19251RF
"Do-It-Yourself" Selection	Use your own mouse IgG ₁ antibody			18099RF
NON-HUMAN PRIMATE			% PURITY ¹	ROBOSEP ^{®2} REAGENT KIT ³ (CATALOG #)
Custom Order (CD4, CD8, T reg, etc.)	Negative	PBMC	-	19809RF

1. EasySep[®] and RoboSep[®] purity data.
 2. **Required equipment - RoboSep[®] (Catalog #20000)**
 3. RoboSep[®] Reagent Kit contains selection cocktail, magnetic particles, two boxes of RoboSep[®] Tip Filter Racks (16 Racks in total), and a 250 mL bottle of RoboSep[®] Buffer. Whole Blood kits contain an additional 10 mL bottle of EasySep[®] RBC Lysis Buffer

(10X concentrate). All reagents are also available for manual separation. Contact us for more information.
 4. Each kit contains enough reagents to process 60 mL of whole blood/buffy coat, unless otherwise stated.
 5. PBMC = peripheral blood mononuclear cells; each kit contains enough reagents to process 10⁹ cells.
 6. For 30 mL of buffy coat