

SIMPLIFY PBMC ISOLATION

Use SepMate™ to Isolate PBMCs in Just 15 Minutes



Isolating peripheral blood mononuclear cells (PBMCs) from whole blood is typically a laborious lab procedure. With SepMate™ it doesn't have to be so time consuming and difficult. SepMate™ is a specialized tube for **fast and consistent PBMC isolation in just 15 minutes**. It contains a unique insert that prevents layers from mixing so blood can be quickly pipetted or poured over the density gradient medium (e.g. Lymphoprep™). After a 10-minute centrifugation with the brake on, plasma and PBMCs are simply poured into a new tube.

SepMate™ is registered in select countries as an In Vitro Diagnostic (IVD) device for the isolation of mononuclear cells (MNCs) from whole blood or bone marrow by density gradient centrifugation.* SepMate™ tubes are manufactured following current Good Manufacturing Practices (cGMP) and are sterile to ensure no contamination of samples.

Why Use SepMate™?

EASY. Avoid slow and laborious sample layering over the density gradient medium.

FAST. Centrifuge for just 10 minutes with the brake on and simply pour off PBMCs into a new tube.

CONSISTENT. Eliminate errors and minimize variability between users.

REGISTERED. Use with whole blood or bone marrow samples for In Vitro Diagnostic (IVD) applications.*

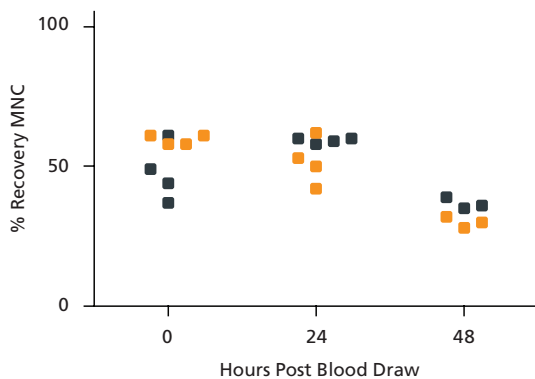


Figure 1. There is no significant difference in the recovery of MNCs with and without SepMate™-15 at any time point

Recovery of MNCs from a single sample at 0, 24, and 48 hours post blood draw enriched by density gradient centrifugation with SepMate™-15 (orange squares) or without SepMate™-15 (dark grey squares).



"I tested the SepMate™ tubes yesterday and they worked... fantastically! I ran in parallel the same sample with my standard protocol and the cell recovery was the same (in a quarter of the time, of course)."

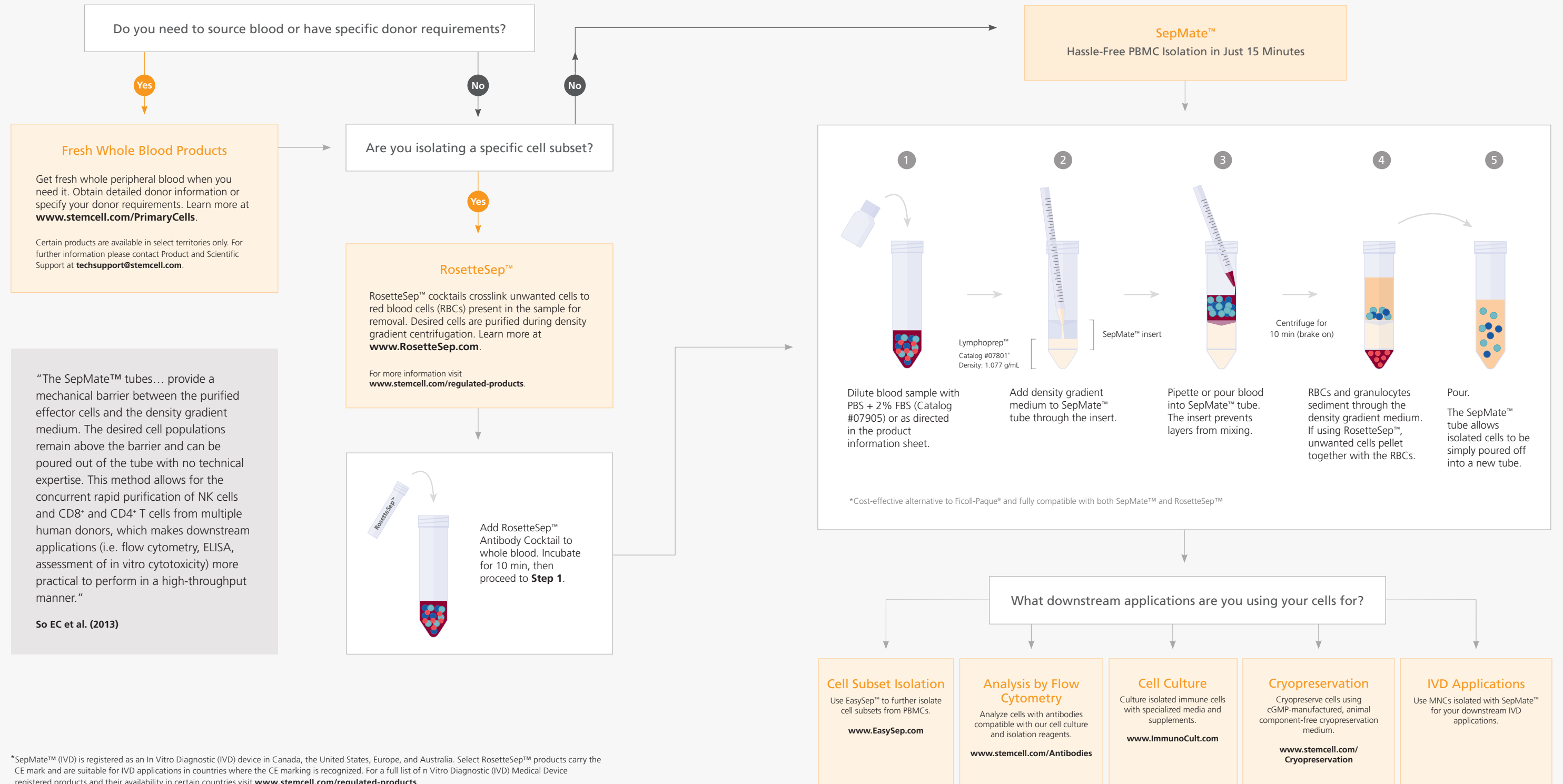
Esperanza Perucha, PhD, Academic
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*SepMate™ (IVD) is registered as an In Vitro Diagnostic (IVD) device intended for the isolation of mononuclear cells from human whole blood or cord blood by density gradient centrifugation in Canada, the United States, Europe, and Australia. This product is also available in China where it is considered a non-medical device by the China Food and Drug Administration (CFDA) and should therefore be used as general laboratory equipment. In all other regions, SepMate™ RUO is available for Research Use Only.



Request a SepMate™ Sample
www.stemcell.com/SepMateSample

Simplify and Speed Up Cell Isolation from Whole Blood



*SepMate™ (IVD) is registered as an In Vitro Diagnostic (IVD) device in Canada, the United States, Europe, and Australia. Select RosetteSep™ products carry the CE mark and are suitable for IVD applications in countries where the CE marking is recognized. For a full list of In Vitro Diagnostic (IVD) Medical Device registered products and their availability in certain countries visit www.stemcell.com/regulated-products.

SepMate™ Applications

Isolation of Specific Cell Subsets from Whole Blood in 25 Minutes

Immune cell isolation plays an important role in areas such as drug discovery and development, vaccine research, and translational immunology. The movement towards more physiologically relevant assays based on primary human cells has created the need for a fast and efficient method of isolating immune cells from large numbers of whole blood samples. To facilitate this type of high-throughput cell processing, SepMate™ can be combined with RosetteSep™ for rapid and efficient cell isolation directly from whole blood in as little as 25 minutes (see page 2). No columns or magnets are necessary, and minimal training is required.

At the University of Maryland School of Medicine, Dr. Ajay Jain and colleagues routinely isolate Natural Killer (NK) cells from large numbers of human samples. Jain's lab adopted the RosetteSep™ and SepMate™ cell isolation system in place of their previous method: density gradient centrifugation followed by column-based immunomagnetic isolation. Dr. Jain's group found that NK cells isolated using RosetteSep™ and SepMate™ have similar expression profiles and cytotoxicity to cells isolated using their previous method but cells were obtain in less than half of the time.¹

PBMC Isolation from Non-Human Blood Samples

SepMate™ has been used to isolate PBMCs from non-human samples for research applications, including the following species:

- Non-human primate^{2,3}
- Pig⁴
- Dog⁵
- Horse⁶
- Goat⁷
- And more ...

The isolation of PBMCs from non-human blood samples using SepMate™ is for research use only and may require modifications from what is specified in the product information sheet. Please contact our Product and Scientific Support team at techsupport@stemcell.com for details.

Product Listing

| TUBE | CATALOG # | BLOOD VOLUME PROCESSED (mL) | UNIT SIZE |
|--------------------------------|-----------|-----------------------------|-----------|
| SepMate™-15 (IVD) ^a | 85415 | 0.5 - 5 | 100 tubes |
| SepMate™-50 (IVD) ^a | 85450 | 4 - 17 | |
| SepMate™-15 (IVD) ^a | 85420 | 0.5 - 5 | 500 tubes |
| SepMate™-50 (IVD) ^a | 85460 | 4 - 17 | |
| SepMate™-15 (RUO) ^b | 86415 | 0.5 - 5 | 100 tubes |
| SepMate™-50 (RUO) ^b | 86450 | 4 - 17 | |
| SepMate™-15 (RUO) ^b | 86420 | 0.5 - 5 | 500 tubes |
| SepMate™-50 (RUO) ^b | 86460 | 4 - 17 | |
| DENSITY MEDIUM | CATALOG # | DENSITY | UNIT SIZE |
| Lymphoprep™ | 07851 | 1.077 g/mL ^c | 500 mL |

- a. SepMate™ (IVD) is available in Australia, Canada, Europe, and the United States of America, where it is registered as an In Vitro Diagnostic (IVD) device for the isolation of mononuclear cells from human whole blood, cord blood, and bone marrow by density gradient centrifugation. This product is also available in China where it is considered a non-medical device by the China Food and Drug Administration (CFDA), and should therefore be used as general laboratory equipment.
- b. SepMate™ (RUO) is intended for Research Use Only (RUO) and is available in regions where SepMate™ (IVD) is not available.
- c. Lymphoprep™ has the same density as Ficoll-Paque® and can be substituted for Ficoll-Paque® without any need to change your existing protocols. Lymphoprep™ is for Research Use Only (RUO).

References

1. So EC, Sallin MA, Zhang X, Chan SL, Sahni L et al. (2013) A high throughput method for enrichment of natural killer cells and lymphocytes and assessment of in vitro cytotoxicity. *J Immunol Methods* 394(1–2): 40–8.
2. Yacoob C, Lange MD, Cohen K, Lathia K, Feng J et al. (2018) B cell clonal lineage alterations upon recombinant HIV-1 envelope immunization of rhesus macaques. *PLoS Pathog* 14(6): e1007120.
3. Termini JM, Magnani DM, Maxwell HS, Lauer W, Castro I et al. (2017) Simian T Lymphotropic Virus 1 Infection of *Papio anubis*: tax Sequence Heterogeneity and T Cell Recognition. *J Virol* 91(20).
4. Dhakal S, Goodman J, Bondra K, Lakshmanappa YS, Hiremath J et al. (2017) Polyamide nanovaccine against swine influenza virus in pigs. *Vaccine* 35(8): 1124–31.
5. Gibbons N, Goulart MR, Chang Y-M, Efstathiou K, Purcell R et al. (2017) Phenotypic heterogeneity of peripheral monocytes in healthy dogs. *Vet Immunol Immunopathol* 190: 26–30.
6. Korovina DG, Yurov KP, Alexeenkova S V, Savchenkova EA & Savchenkova IP. (2017) Characterization of multipotent mesenchymal stem cells isolated from equine umbilical cord blood. *Russ Agric Sci* 43(3): 262–5.
7. Baliu-Piqué M, Verheij MW, Drylewicz J, Ravesloot L, de Boer RJ et al. (2018) Short Lifespans of Memory T-cells in Bone Marrow, Blood, and Lymph Nodes Suggest That T-cell Memory Is Maintained by Continuous Self-Renewal of Recirculating Cells. *Front Immunol* 9: 2054.

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