



# Primary Human Immune Cells

## Physiologically relevant models of the immune system

ATCC primary immunology cells are able to support complex, physiologically relevant research projects, including toxicity screening, transplantation and graft rejection, inflammation and allergy, vaccine, drug development, as well as cancer immunology studies. Our Scientists have conducted in-depth characterization of the cells in this collection<sup>1,2</sup>. Furthermore, this collection reliably provides:

- Greater than 90% cryo-recovery
- Functional data available
- High differentiation capacity or immune activity
- Greater than 90% purity for select biomarkers
- Expansion and differentiation protocols
- Diverse pool of donors available
- Positive and negative biomarkers
- Normal cell morphology

The multipotent bone marrow and cord blood CD34+ hematopoietic stem cells within this collection give rise to either more stem cells or to common myeloid or lymphoid progenitor cells. These cells then give rise to the more differentiated components of the immune system, which may then migrate to the tissues for further specialization. Moreover, the peripheral CD14+ cells in this collection can be induced to differentiate into dendritic cells or macrophages. Finally, the mononuclear cell preparations from the bone marrow or peripheral blood include differentiated macrophages, dendritic cells, monocytes, and lymphocytes, as well as a smaller fraction of hematopoietic cells (Figure 1).

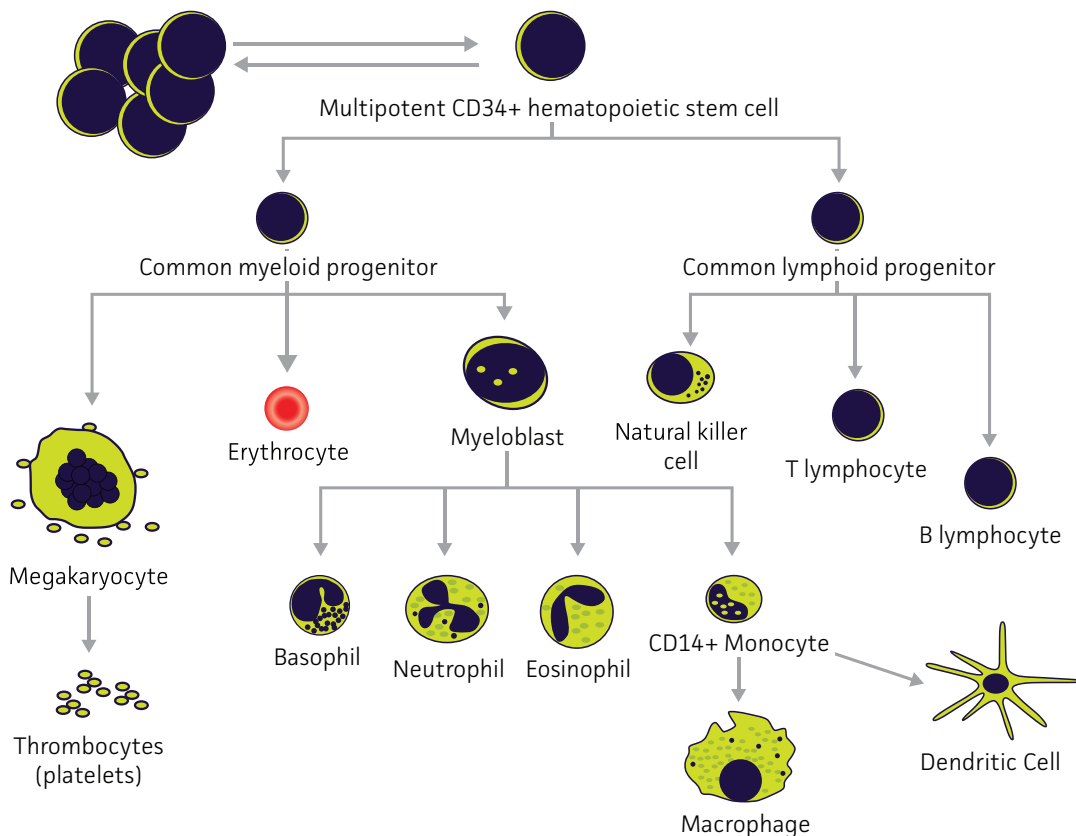


FIGURE 1. Differentiation of Multipotent Hematopoietic Progenitor Cells

## Customizable for any experiment

The cells in this product listing, this collection have many customizable options. ATCC has access to a wide range of unique donors, presenting immunologists the ability to design almost any experiment. Further, ATCC primary immunology cells have been obtained from donor via institutional review board-approved protocols that follow cGMP and cGTP tissue collection and processing guidelines.

- Height and weight
- Age
- Ethnic and gender
- Lifestyle
- HLA and blood type
- Diet
- Family history
- Other specific parameters

**TABLE 1.** ATCC primary immune cells


Cell Type	ATCC® No.	Number of Cells/vial	Positive Biomarkers
Peripheral Blood CD14+ Monocytes	PCS-800-010™	50 million	CD14, CD45
Peripheral Blood Mononuclear Cells	PCS-800-011™	25 million	CD45; Lot Specific FIO*: CD3, CD8, CD4, CD56, CD14, CD19
Bone Marrow CD34+ Cells	PCS-800-012™	500,000	CD34, CD45
Bone Marrow Mononuclear Cells	PCS-800-013™	25 million	CD45; Lot Specific FIO*: CD3, CD8, CD4, CD58, CD14, CD19, CD34
Cord Blood CD34+ Cells	PCS-800-014™	500,000	CD34, CD45
Peripheral Blood CD4+ Helper T Cells	PCS-800-016™	25 million	CD3, CD4, CD45
Peripheral Blood CD8+ Cytotoxic T Cells	PCS-800-017™	25 million	CD3, CD8, CD45
Peripheral Blood CD19+ B Cells	PCS-800-018™	25 million	CD20, CD45
Peripheral Blood CD56+ Natural Killer Cells	PCS-800-019™	5 million	CD45, CD56
iPSC-derived Mesenchymal Stem Cells	ACS-7010™	2.5 million	CD29, CD44, CD73, CD90, CD105, CD166
iPSC-derived CD34+ Cells	ACS-7020™	2.5 million	CD34, CD45
iPSC-derived Monocytes	ACS-7030™	2.5 million	CD14


\*For information only (FIO); Lot-specific FIO is not release criteria. Check individual lots for CD-specific numbers.


## References

1. Clinton J, Shapiro B, Differentiation and expansion of hematopoietic precursor cells from bone marrow-derived CD34+ progenitors. [Application Note](#), 2015.
2. Clinton J, Shapiro B. *In vitro* differentiation of macrophages and dendritic cells from primary human CD14+ monocytes. [Application Note](#), 2015.

Explore more at [www.atcc.org/primaryimmune](http://www.atcc.org/primaryimmune)

 10801 University Boulevard  
Manassas, Virginia 20110-2209

 703.365.2700

 703.365.2701

 [sales@atcc.org](mailto:sales@atcc.org)

 [www.atcc.org](http://www.atcc.org)

PC-01-02-2020-v04

© 2020 American Type Culture Collection. The ATCC trademark and trade name, and any other trademarks listed in this publication are trademarks owned by the American Type Culture Collection unless indicated otherwise.

These products are for laboratory use only. Not for human or diagnostic use. ATCC products may not be resold, modified for resale, used to provide commercial services or to manufacture commercial products without prior ATCC written approval.