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Product Information

Human Peripheral Blood CD14+ Monocytes (Positive Selection)

Catalog Number	10HU-008	Cell Number	10 million cells/vial 40 million cells/vial
Species	*Homo sapiens*	Storage Temperature	Liquid Nitrogen

Description

Monocytes are innate blood cells that maintain vascular homeostasis and are early responders to pathogens in acute infections [1, 2]. Monocytes constitute 10~30% of peripheral blood mononuclear cells in the human body. They play multiple roles in immune function including replenishing resident macrophages under normal states. And in response to inflammation signals, monocytes can move quickly (approx. 8–12 hours) to sites of infection in the tissues and divide/differentiate into macrophages and dendritic cells to elicit an immune response [3]. CD14 is an important surface marker for monocytes.

iXCells Biotechnologies offers CD14+ monocytes isolated from normal human peripheral blood mononuclear cells (PBMCs) using positive immunomagnetic selection. > 90% of the cells are CD14+ as showed by flow cytometric analysis (Figure 1 A). And >53% of monocytes are capable to differentiate into mature dendritic cell (Fig 1B, C).

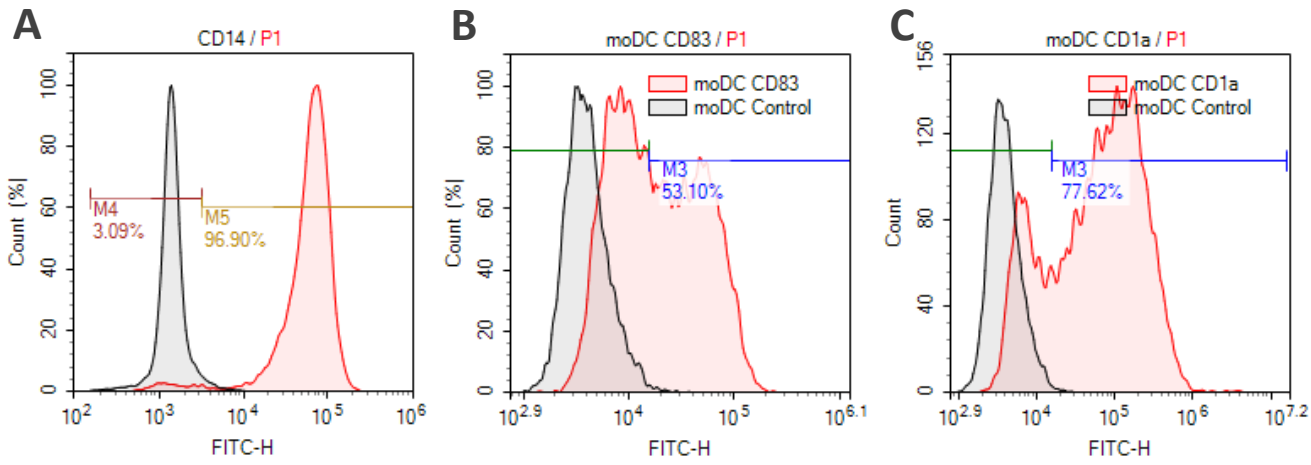

Figure 1. Human Peripheral Blood CD14+ Monocytes (Positive Selection). (**A)** >90% of purified cells are CD14 positive. (**B, C**) Flow cytometric analysis of monocytes dendritic cell differentiation, showed >53% of cells are CD83 positive and >77% cells are CD1a positive.

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Product Details

Tissue	Normal human peripheral blood
Package Size	10 million cells/vial, 40 million cells/vial
Purity	>90%
Passage Number	P0
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Suspension
Media	Blood Cell Culture Medium (Cat# MD-0007)

Protocols

Thawing of Frozen Cells

1. Upon receipt of the frozen cells, it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. To thaw the cells, put the vial in 37°C water bath with gentle agitation for 1-2 minutes. Keep the cap out of water to minimize the risk of contamination.
3. Pipette the cells into a 15 mL conical tube with 5 mL fresh **Blood Cell Culture Medium** (Cat# MD-0007).
4. Centrifuge at 400-450 g for 5 minutes under room temperature.
5. Remove the supernatant and cell is ready for downstream applications.

Safety Precaution: *it is highly recommended that protective gloves and clothing should be used when handling frozen vials.*

Reference

[1] Martin Guilliams, Alexander Mildner, and Simon Yona. (2018) “Developmental and Functional Heterogeneity of Monocytes”. Immunity, 49: 595-613.

[2] Prakash Babu Narasimhan, Paola Marcovecchio, Anouk A.J. Hamers, and Catherine C. Hedrick. (2019) “Nonclassical Monocytes in Health and Disease”. Annual Reviews of Immunology, 37: 439-456.

[3] Ziegler-Heitbrock, L (2007). "The CD14+ CD16+ Blood Monocytes: their Role in Infection and Inflammation, Review". *J Leukocyte Biology* **81** (3): 584–92.

Disclaimers

This product is intended for laboratory research purposes only. It is not intended for use in humans. While iXCells Biotechnologies uses reasonable efforts to include accurate and up-to-date information on this product sheet, we make no warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. iXCells Biotechnologies does not warrant that such information has been confirmed to be accurate.

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