

Normal Human Dendritic Cells

"Let Lonza's 35+ years of experience help eliminate your hassles of finding donors, performing tedious cell isolations, and characterizing cells, so you can focus on your research."

Antigen uptake... it's easy as APC

Dendritic cells (DCs) are a type of antigen presenting cell (APC) and are the messengers of the immune system. They control steady-state T cell tolerance as well as process and present pathogenic antigens to host T cells in order to initiate an immune response.

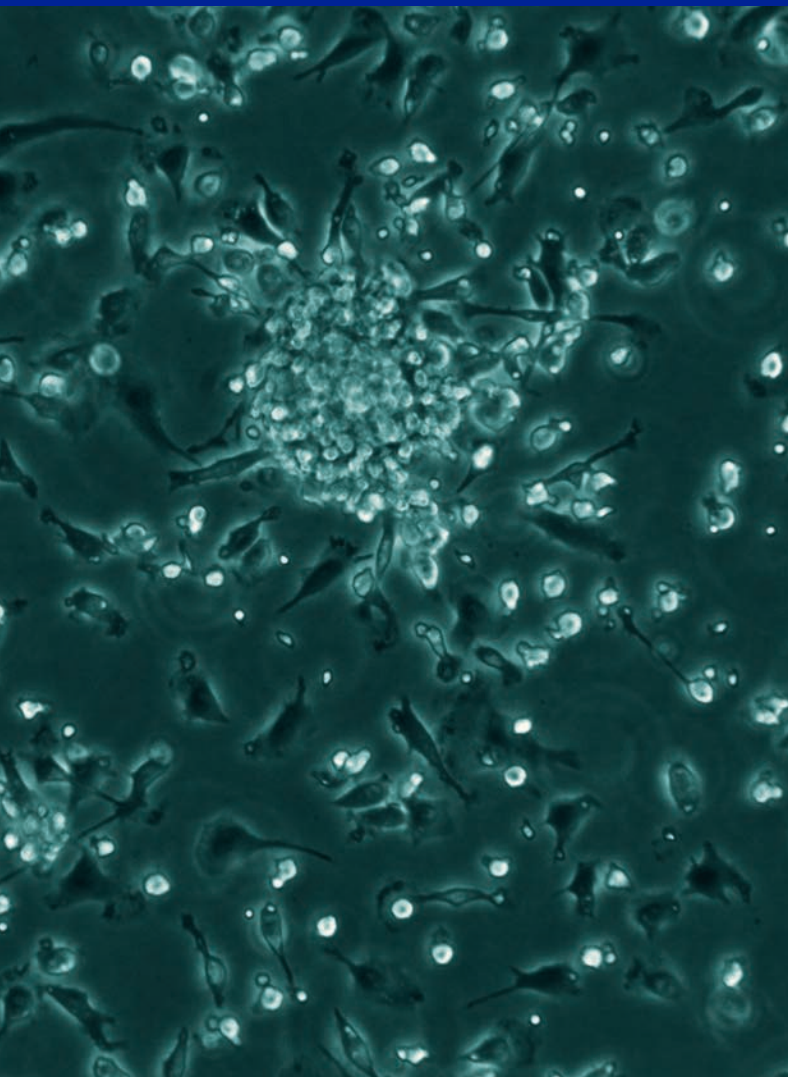
DCs have long been of interest to traditional immunologists, and their interest is rapidly expanding, especially with recent advances in understanding the influences of inflammation on human disease. For example, DCs are currently a focal point for many oncology researchers who are hoping to exploit their functionality to elicit specific immune responses directed toward cancer and tumor cells.

Cells you can count on to perform

How many times have you isolated cells only to characterize them and discover they don't have the cell surface expression you were expecting? You no longer need to go through all that work and disappointment – you can purchase purified and characterized cells with confidence, knowing all you have to do is thaw and culture.

Proper characterization for dendritic cells includes the presence of class II MHC antigens (HLA-DR), absent/dim expression of lineage markers (CD3, CD19, and CD14, etc), as well as presence of adhesion molecules (CD11a, CD11c, CD58, etc) and costimulatory molecules (CD80 and CD86). The costimulatory molecules are particularly helpful in identifying maturation state of dendritic cells, because CD86 is an early maturation marker while CD80 is a late maturation marker.

Every lot of Lonza Normal Human Dendritic Cells (NHDCs) is characterized for cell surface expression of HLA-DR, CD14, CD11c, CD86, and CD80 via flow cytometry to help ensure consistent performance from lot to lot.



Cell surface marker	Significance
HLA-DR+	Class II MHC antigen (antigen presentation capabilities)
CD14	Absent/dim expression of lineage marker (evidence of differentiation from monocytes)
CD11c+	Adhesion molecule (DC-T cell adherence and T cell activation)
CD86+	Co-stimulatory molecule (expressed on immature dendritic cells)
CD80+	Co-stimulatory molecule (expressed on immature dendritic cells)

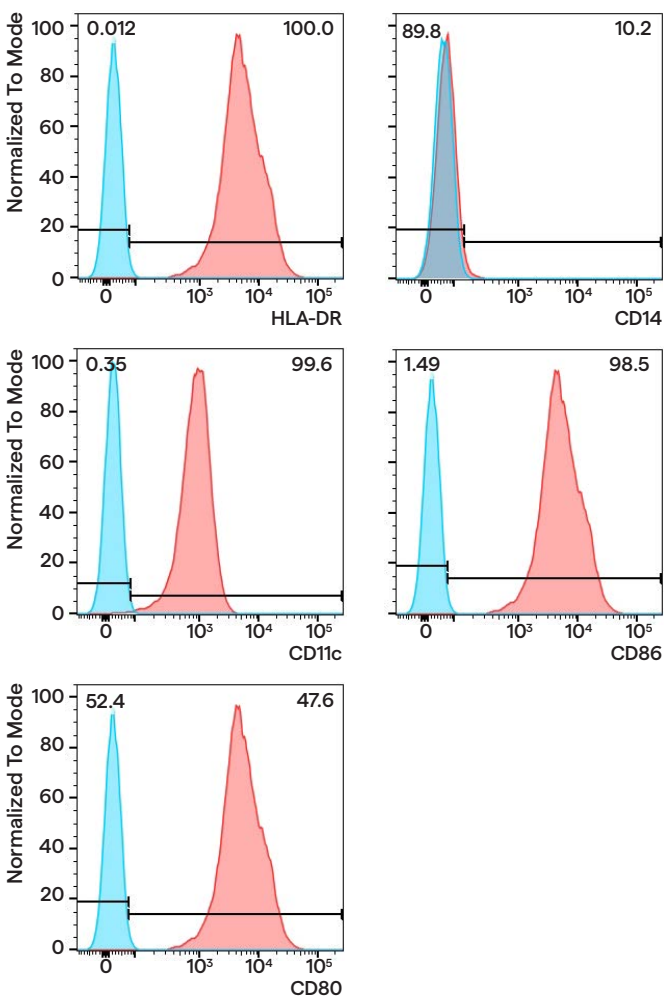


Figure 1. Representative histograms of Lonza Normal Human Dendritic Cells surface marker expression.

Relevant for many different applications

Lonza NHDCs are monocyte-derived, immature DCs and have the ability to further differentiate into mature dendritic cells. They can therefore be used in many different applications to answer a variety of research questions. For example, you can culture dendritic cells from the same donor to explore the differences in antigen uptake and T cell stimulatory abilities between immature and mature dendritic cells. different applications to answer a variety of research questions. For example, you can culture dendritic cells from the same donor to explore the differences

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Supported by an optimized culture system

LGM® 3, Lymphocyte Growth Medium was specifically designed for culture of lymphocytes and comes complete with albumin, insulin, and transferrin. For maintenance of the immature DC phenotype, culture Lonza NHDCs in LGM® 3 supplemented with IL-4 and GM-CSF. Contact Lonza Scientific Support for information on culturing for different applications.

Product	Catalog number	Size	Viable time in culture	Recommended culture medium
Normal Human Dendritic Cells	CC-2701	≥ 3 million viable cells	7 days (with cytokines)	LGM® 3 (Catalog Number, CC-3211)

All cells are performance assayed and test negative for HIV-1, mycoplasma, Hepatitis-B, Hepatitis-C, bacteria, yeast and fungi. Certificates of Analysis (COA) for each cell strain are shipped with each order. COAs for all other products are available upon request.

Contact us

North America

Customer Service: +1 800 638 8174 (toll free)
 order.us@lonza.com
 Scientific Support: +1 800 521 0390 (toll free)
 scientific.support@lonza.com

Europe

Customer Service: +32 87 321 611
 order.europe@lonza.com
 Scientific Support: +49 221 99199 400
 scientific.support.eu@lonza.com

International

Contact your local Lonza distributor
 Customer Service: +1 301 898 7025
 scientific.support@lonza.com

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Lonza Walkersville, Inc. – Walkersville, MD 21793

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