Technical Data Sheet

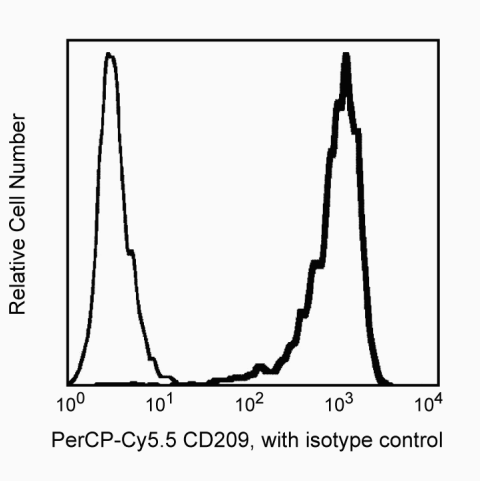
PerCP-Cy™5.5 Mouse Anti-Human CD209

Product Information

Material Number:	**558263**
Alternate Name:	DC-SIGN
Size:	100 tests
Vol. per Test:	20 µl
Clone:	DCN46
Immunogen:	Human Monocyte Derived DC Cells
Isotype:	Mouse IgG2b, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The DCN46 antibody reacts with dendritic cell-specific ICAM-3 grabbing nonintegrin (DC-SIGN or CD209), a type-II membrane protein of approximately 44 kDa with a mannose-binding C-type lectin domain. It is highly expressed on dendritic cells in mucosal tissues. Its sequence is identical to the HIV-1 envelope gp120-binding C-type lectin, and reports suggest that DC-SIGN binds to HIV-1 gp120 and effectively transmits infectious HIV-1 to resting T lymphocytes expressing CD4 and chemokine receptors. The C-type lectin domain of DC-SIGN is also capable of binding other pathogenic viruses, bacteria, and parasites. Reports also suggest that DC-SIGN enables the highly efficient migration of dendritic cells from blood into the tissues. It can interact with ICAM-2, which has a similar sequence as ICAM-3, and is abundantly expressed on vascular and lymphoid endothelium. Thus, DC-SIGN mediates dendritic cells rolling and transendothelial migration, and its interaction with ICAM-2 is essential to specific migratory functions of dendritic cells.



Expression of CD209 on peripheral blood monocyte-derived dendritic cells. *Adherent peripheral blood mononuclear cells were cultured for 7 days with the recombinant human cytokines, GM-CSF (Cat. No. 550068) and IL-4 (Cat. No. 554605). Then the cultured dendritic cells were stained with either PerCP-Cy5.5 Mouse IgG2b, κ isotype control mAb 27-35 (Cat. No. 558304, thin histogram) or mAb DCN46 (bold histogram). Flow cytometry was performed on a BD FACSCalibur™ flow cytometry system.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with PerCP-Cy5.5 under optimum conditions, and unconjugated antibody and free PerCP-Cy5.5 were removed. Storage of PerCP-Cy5.5 conjugates in unoptimized diluent is not recommended and may result in loss of signal intensity.
Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
558304	PerCP-Cy™5.5 Mouse IgG2b, κ Isotype Control	100 tests	27-35

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. Since applications vary, each investigator should titrate the reagent to obtain optimal results.

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3. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
4. Cy is a trademark of Amersham Biosciences Limited. This conjugated product is sold under license to the following patents: US Patent Nos. 5,486,616; 5,569,587; 5,569,766; 5,627,027.
5. PerCP-Cy5.5–labelled antibodies can be used with FITC- and R-PE–labelled reagents in single-laser flow cytometers with no significant spectral overlap of PerCP-Cy5.5, FITC, and R-PE fluorescence.
6. PerCP-Cy5.5 is optimized for use with a single argon ion laser emitting 488-nm light. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using dual-laser cytometers, which may directly excite both PerCP and Cy5.5™. We recommend the use of cross-beam compensation during data acquisition or software compensation during data analysis.
7. This product is subject to proprietary rights of Amersham Biosciences Corp. and Carnegie Mellon University and made and sold under license from Amersham Biosciences Corp. This product is licensed for sale only for research. It is not licensed for any other use. If you require a commercial license to use this product and do not have one return this material, unopened to BD Biosciences, 10975 Torreyana Rd, San Diego, CA 92121 and any money paid for the material will be refunded.
8. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
9. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Appelmelk BJ, van Die I, van Vliet SJ, et al. Carbohydrate profiling identifies new pathogens that interact with dendritic cell-specific ICAM-3-grabbing nonintegrin on dendritic cells. *J Immunol.* 2003; 170(4):1635-1639. (Biology)

Gruber A, Chalmers AS, Popov S, Ruprecht RM. Functional aspects of binding of monoclonal antibody DCN46 to DC-SIGN on dendritic cells. *Immunol Lett.* 2002; 84(2):103-108. (Clone-specific)

Sallusto F, Cella M, Danieli C, Lanzavecchia A. Dendritic cells use macropinocytosis and the mannose receptor to concentrate macromolecules in the major histocompatibility complex class II compartment: downregulation by cytokines and bacterial products. *J Exp Med.* 1995; 182(2):389-400. (Immunogen)

Steinman RM. DC-SIGN: a guide to some mysteries to dendritic cells. *Cell.* 2000; 100(5):491-494. (Biology)

Steinman RM, Granelli-Piperno A, Pope M, et al. The interaction of immunodeficiency viruses with dendritic cells. *Curr Top Microbiol Immunol.* 2003; 276:1-30. (Biology)