Human DC-SIGN+DC-SIGNR Antibody

Monoclonal Mouse IgG_{2A} Clone # DC28

Catalog Number: MAB16211

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human DC-SIGN in direct ELISAs and Western blots. Was reported to cross-react with human DC-SIGNR as well as DC-SIGN from Pigtailed Macaque and Rhesus Macaque (10).
Source	Monoclonal Mouse IgG_{2A} Clone # DC28
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human DC-SIGN Extracellular domain
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human DC-SIGN Fc Chimera (Catalog # 161-DC) Recombinant Human DC-SIGNR/CD299 Fc Chimera (Catalog # 162-D2)
Flow Cytometry	2.5 µg/10^6 cells	Human DC–SIGN transfected 3T3 mouse embryonic fibroblast cell line
Adhesion Blockade	The adhesion of NIH-3T3 mouse embryonic fibroblast cells (5 x 10^4 cells/well) to immobilized Recombinant Human ICAM-3/CD50 Fc Chimera (Catalog # 715-IC, 10 µg/mL, 100 µL/well) was maximally inhibited (80-100%) by 4 µg/mL of the antibody.	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

DC-SIGN (Dendritic Cell- Specific ICAM-3 Grabbing Non-Integrin) has been shown to play an important role in regulating dendritic cell (DC) and T cell interactions, including antigen presentation to T cells and enhancement of transinfection of CD4+ T cells by HIV-1 (1, 2). Efforts to identify additional type II membrane proteins resulted in the isolation of a molecule related in sequence to DC-SIGN known as DC-SIGNR (DC-SIGN Related) (3, 4). DC-SIGNR shares 73 - 80% amino acid homology with DC-SIGN and is located on human chromosome 19p13.3. Its structure is similar to DC-SIGN and therefore binds mannose residues in a calcium dependent fashion, including ICAM-3 and HIV-1 gp120 (5). DC-SIGNR, also known as L-SIGN (Liver/Lymph node-Specific ICAM-3-Grabbing Non-integrin) and DC-SIGNR, is polymorphic since allelic variations of the exon 4 encoded sequence have been isolated (5). This is further supported by a study demonstrating the ability to isolate a large repertoire of DC-SIGNR transcripts largely the result of alternative splicing of the 7 coding exons (6). L-SIGN/DC-SIGNR is primarily transcribed in the liver and lymph nodes but not in monocyte derived DC (5). Expression of L-SIGN/DC-SIGNR is restricted to endothelial cells derived from liver sinusoids, lymph nodes sinuses and capillaries (7) although variable expression in placenta and some monocytic cell lines has also been reported, including both membrane and soluble isoforms of the protein (6). Expression of DC-SIGN is induced during the in-vitro generation of DC from either monocytes or bone marrow progenitors, with maximal surface expression at day 7 of culture (1). Immature DC in the skin and mature DC in the tonsil have been demonstrated to express DC-SIGN (8). Analysis of various tissues and cell lines suggests that DC-SIGN expression is restricted to DC (1) although a more recent report finds evidence of expression in placenta, resting monocytes and monocytic cell lines (6). This discrepancy may be partially related to the multiple isoforms of DC-SIGN transcripts, including both membrane and soluble forms, as well as exon splice variants reported in the latter study (6). A detailed description of the additional properties of this monoclonal antibody may be found in references 9 and 10.

References:

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4. Soilleux, E.J. *et al.* (2000) J. Immunol. **165**:2937.
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6. Mummidi, S. *et al.* (2001) J. Biol. Chem., 2001 May 3 [epub ahead of print].
7. Pohlman, S. *et al.* (2001) Proc. Natl. Acad. Sci. USA **98**:2670.
8. Geijtenbeek, T.B.H. *et al.* (2000) Nature Immunol. **1**:353.
9. Wu, L. *et al.* (2002) J. Virol. **76**:5905.
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