

PRODUCT INFORMATION

DC-SIGN1/CD209 Extracellular Domain (human, recombinant)

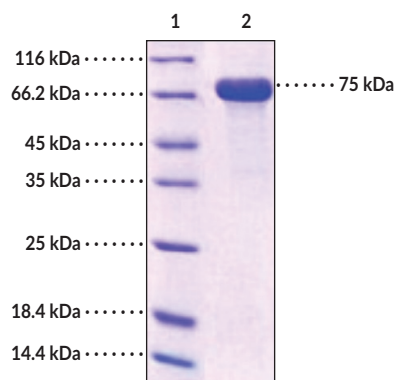
Item No. 38060

Overview and Properties

Synonyms:	CD209 Antigen Isoform 1, CLEC4L, C-type Lectin Domain Family 4 Member L, DC-SIGN1A Type I, Dendritic Cell-specific ICAM-3-grabbing Non-integrin 1
Source:	Recombinant N-terminal human IgG1 Fc-tagged DC-SIGN1 extracellular domain expressed in HEK293 cells
Amino Acids:	62-404
Uniprot No.:	Q9NNX6
Molecular Weight:	65.8 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥97% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/μg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers

Lane 2: DC-SIGN1/CD209 Extracellular Domain (human, recombinant)

SDS-PAGE Analysis of DC-SIGN1/CD209 Extracellular Domain.

This protein has a calculated molecular weight of 65.8 kDa. It has an apparent molecular weight of approximately 75 kDa by SDS-PAGE under reducing conditions due to glycosylation.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Dendritic cell-specific ICAM-3-grabbing non-integrin 1 (DC-SIGN1), also known as CD209, is a type II transmembrane glycoprotein and member of the C-type lectin receptor superfamily.^{1,2} It is composed of an N-terminal cytoplasmic domain, a transmembrane domain, a neck region that contains seven repeats of 23 amino acids and is involved in oligomerization, and a carbohydrate recognition domain. However, DC-SIGN1 undergoes extensive alternative splicing that results in at least 12 membrane-bound or soluble isoforms.^{1,3} It is expressed in dendritic cells and macrophages, dermal, mucosal, intestine, and lung tissues, as well as blood and lymph nodes.^{1,2} DC-SIGN1 is involved in cell-cell adhesion and migration *via* interactions with intracellular cell adhesion molecule-2 (ICAM-2) and ICAM-3, recognition of viral and bacterial pathogens, and the immune response.^{1,2,4} It binds to HIV-1 gp120 and the receptor-binding domain of spike glycoprotein, also known as surface glycoprotein, of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).^{5,6} Dendritic cell expression of human CD209 increases survival in a mouse model of *M. tuberculosis* infection.⁴ SNPs in CD209 are associated with increased disease severity in patients with dengue viral infection.⁷ Cayman's DC-SIGN1/CD209 Extracellular Domain (human, recombinant) protein is a disulfide-linked homodimer. The reduced monomer, composed of DC-SIGN1 (amino acids 62-404) fused to human IgG1 Fc at its N-terminus, consists of 580 amino acids and has a calculated molecular weight of 65.8 kDa. As a result of glycosylation, the monomer migrates at approximately 75 kDa by SDS-PAGE under reducing conditions.

References

1. Rahimi, N. C-type lectin CD209L/L-SIGN and CD209/DC-SIGN: Cell adhesion molecules turned to pathogen recognition receptors. *Biology (Basel)* **10**(1), 1 (2020).
2. Geijtenbeek, T.B.H., Engering, A., and Van Kooyk, Y. DC-SIGN, a C-type lectin on dendritic cells that unveils many aspects of dendritic cell biology. *J. Leukoc. Biol.* **71**(6), 921-931 (2002).
3. Mummidi, S., Catano, G., Lam, L., *et al.* Extensive repertoire of membrane-bound and soluble dendritic cell-specific ICAM-3-grabbing nonintegrin 1 (DC-SIGN1) and DC-SIGN2 isoforms. Inter-individual variation in expression of DC-SIGN transcripts. *J. Biol. Chem.* **276**(35), 33196-33212 (2001).
4. Schaefer, M., Reiling, N., Fessler, C., *et al.* Decreased pathology and prolonged survival of human DC-SIGN transgenic mice during mycobacterial infection. *J. Immunol.* **180**(10), 6836-6845 (2008).
5. Geijtenbeek, T.B., Kwon, D.S., Torensma, R., *et al.* DC-SIGN, a dendritic cell-specific HIV-1-binding protein that enhances trans-infection of T cells. *Cell* **100**(5), 587-597 (2000).
6. Amraei, R., Yin, W., Napoleon, M.A., *et al.* CD209L/L-SIGN and CD209/DC-SIGN act as receptors for SARS-CoV-2. *ACS Cent. Sci.* **7**(7), 1156-1165 (2021).
7. Ghosh, P., Mukherjee, S., Saha, B., *et al.* Importance of NF κ B, IL-10 serum levels and DC-SIGN polymorphic haplotypes in determining dengue disease severity among eastern Indian patients. *Microb. Pathog.* **173**(Pt B), 105870 (2022).

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