

DC-SIGN Antibody

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 25-55	Source/Isotype: Rabbit	UniProt ID: #Q9NNX6	Entrez-Gene Id: 30835
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

DC-SIGN Antibody recognizes endogenous levels of total DC-SIGN protein. This antibody also detects DC-SIGNR.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val134 of human DC-SIGN protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

DC-SIGN (CD209, CLEC4L) is a C-type lectin receptor expressed by dendritic cells (DCs) (1,2). The DC-SIGN transcript can undergo several splicing events to generate at least thirteen different transmembrane and soluble isoforms (3). DC-SIGN responds to a broad range of pathogens due to its ability to recognize both mannose and fructose carbohydrates, and is well studied for its role in HIV infection. Recognition of the HIV envelope glycoprotein gp120 by DC-SIGN leads to internalization of HIV by DCs and facilitates transmission of the virus to CD4⁺ T cells (2,4). DC-SIGN also mediates adhesion to T cells through interaction with ICAM-3, as well as transmigration across the endothelium by binding to ICAM-2 (1,5). The DC-SIGN receptor can modulate TLR signaling by activating the kinase Raf-1 (6,7). The closely related molecule DC-SIGNR (L-SIGN, CLEC4M) is 77% homologous to DC-SIGN and likely arose through a gene duplication event (8). Like DC-SIGN, DC-SIGNR binds mannose carbohydrates on the surface of pathogens (8,9). However, the expression patterns of the two receptors differ, as DC-SIGNR expression is restricted to endothelial cells of the liver, lymph node, and placenta (10). Murine cells contain a set of related molecules, SIGNR1-SIGNR8 (11). Based on sequence analysis, there is no clear murine ortholog to human DC-SIGN, however SIGNR3 is the most functionally similar due to its ability to recognize both mannose and fructose structures (11).

Background References

1. Geijtenbeek, T.B. et al. (2000) *Cell* 100, 575-85.
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3. Mummidi, S. et al. (2001) *J Biol Chem* 276, 33196-212.
4. Kwon, D.S. et al. (2002) *Immunity* 16, 135-44.
5. Geijtenbeek, T.B. et al. (2000) *Nat Immunol* 1, 353-7.
6. Gringhuis, S.I. et al. (2007) *Immunity* 26, 605-16.
7. Gringhuis, S.I. et al. (2010) *Nat Immunol* 11, 419-26.
8. Bashirova, A.A. et al. (2001) *J Exp Med* 193, 671-8.
9. Mitchell, D.A. et al. (2001) *J Biol Chem* 276, 28939-45.
10. Pöhlmann, S. et al. (2001) *Proc Natl Acad Sci U S A* 98, 2670-5.
11. Powlesland, A.S. et al. (2006) *J Biol Chem* 281, 20440-9.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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