



## DC-SIGN (MR-1): sc-59157

### BACKGROUND

Dendritic cells (DCs) are antigen-presenting immune system cells that are present on peripheral mucosal tissues and migrate to lymphoid tissues. DC-SIGN (DC-specific ICAM-3 grabbing nonintegrin) is a type II membrane protein that is exclusively expressed by DCs. DC-SIGN, also designated CD209, binds to ICAM-3 to mediate the initial interaction between DCs and resting T cells through the immunological synapse. The DCs that are present in the initial sites of HIV-1 infection capture HIV-1 through DC-SIGN, which then facilitates the migration of DCs to areas of T cell-rich secondary lymphoid organs, where it promotes efficient trans HIV-1 infection of those T cells. DC-SIGN functions to transport HIV-1 from exposed mucosal surfaces to a lymphoid compartment.

### REFERENCES

1. Curtis, B.M., Scharnowske, S. and Watson A.J. 1992. Sequence and expression of a membrane-associated C-type lectin that exhibits its CD2-independent binding of HIV envelope glycoprotein gp120. *Proc. Natl. Acad. Sci. USA* 89: 8356-8360.
2. Steinman, R.M. 2000. DC-SIGN: a guide to some mysteries of dendritic cells. *Cell* 100: 491-494.
3. Geijtenbeek, T.B., Torensma, R., van Vliet, S.J., van Duijnhoven, G.C., Adema, G., van Kooyk, Y. and Figdor, C.G. 2000. Identification of DC-SIGN, a novel dendritic cell-specific ICAM-3 receptor that supports primary immune responses. *Cell* 100: 575-585.
4. Geijtenbeek, T.B., Kwon, D.S., Torensma, R., van Vliet, S.J., van Duijnhoven, G.C., Middel, J., Cornelissen, I.L., Nottet, H.S., KewalRamani, V.N., Littman D.R., Figdor, C.G. and van Kooyk, Y. 2000. DC-SIGN, a dendritic cell-specific HIV-1-binding protein that enhances *trans*-infection of T cells. *Cell* 100: 587-597.
5. Cohen, J. 2000. Novel protein delivers HIV to target cells. *Science* 287: 1567.
6. Steinberg, D. 2000. Receptor boosts HIV infection. *Scientist* 14: 12.
7. Whelan, K.T., Lin, C.L., Cella, M., McMichael, A.J., Austyn, J.M. and Rowland-Jones, S.L. 2003. The HIV protease inhibitor indinavir reduces immature dendritic cell transendothelial migration. *Eur. J. Immunol.* 33: 2520-2530.

### CHROMOSOMAL LOCATION

Genetic locus: CD209 (human) mapping to 19p13.2.

### SOURCE

DC-SIGN (MR-1) is a mouse monoclonal antibody raised against immature myeloid monocyte-derived dendritic cells of human origin.

### PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DC-SIGN (MR-1) is available conjugated to either phycoerythrin (sc-59157 PE) or fluorescein (sc-59157 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

### APPLICATIONS

DC-SIGN (MR-1) is recommended for detection of DC-SIGN of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for DC-SIGN siRNA (h): sc-43719, DC-SIGN shRNA Plasmid (h): sc-43719-SH and DC-SIGN shRNA (h) Lentiviral Particles: sc-43719-V.

Molecular Weight of DC-SIGN: 44 kDa.

### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.