

DC-SIGN (120507): sc-59156

BACKGROUND

Dendritic cells (DC) 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 43 kDa type II membrane protein that is exclusively expressed by DC. DC-SIGN, also designated CD209, binds to ICAM-3 to mediate the initial interaction between DC and resting T cells through the immunological synapse. The DC that are present in the initial sites of HIV-1 infection capture HIV-1 through DC-SIGN, which then facilitates the migration of DC to areas of T cell-rich secondary lymphoid organs, where it promotes efficient *trans* HIV-1 infection of these T cells. DC-SIGN functions to transport HIV-1 from exposed mucosal surfaces to a lymphoid compartment.

REFERENCES

1. Curtis, B.M., Scharnawske, 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: 1567-1568.
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: 3250-3250.

CHROMOSOMAL LOCATION

Genetic locus: CD209 (human) mapping to 19p13; Cd209 (mouse) mapping to 8 A1.1.

SOURCE

DC-SIGN (120507) is a mouse monoclonal antibody raised against DC-SIGN of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

DC-SIGN (120507) is recommended for detection of DC-SIGN of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10⁶ cells); non cross-reactive with parental mouse cells or irrelevant transfectants, such as human DC-SIGN2.

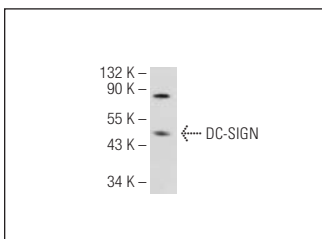
Suitable for use as control antibody for DC-SIGN siRNA (h): sc-43719, DC-SIGN shRNA Plasmid (h): sc-43719-SH and DC-SIGN shRNA (h) Lentiviral Particles: sc-43719-V.

Molecular Weight of DC-SIGN: 43 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



DC-SIGN (120507): sc-59156. Western blot analysis of DC-SIGN expression in HeLa whole cell lysate.

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 or our catalog for detailed protocols and support products.