

DC-SIGN/DC-SIGNR (14E3G7): sc-53965

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 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-SIGNR (DC-SIGN-related molecule), also designated CD209L and L-SIGN (liver/lymph node-specific ICAM-3 grabbing nonintegrin), is a type II integral membrane protein that is 77% identical to DC-SIGN. It is expressed on sinusoidal endothelial cells and binds the E2 glycoproteins of the hepatitis C virus.

REFERENCES

1. Fauci, A. 1996. Host factors and the pathogenesis of HIV-induced disease. *Nature* 384: 529-534.
2. Yokoyama-Kobayashi, M., et al. 1999. Selection of cDNAs encoding putative type II membrane proteins on the cell surface from a human full-length cDNA bank. *Gene* 228: 161-167.
3. Soilleux, E.J., et al. 2000. DC-SIGN; a related gene, DC-SIGNR; and CD23 form a cluster on 19p13. *J. Immunol.* 165: 2937-2942.
4. Pöhlmann, S., et al. 2001. DC-SIGNR, a DC-SIGN homolog expressed in endothelial cells, binds to human and simian immunodeficiency viruses and activates infection in *trans*. *Proc. Natl. Acad. Sci. USA* 98: 2670-2675.
5. Bashirova, A.A., et al. 2001. A dendritic cell-specific intercellular adhesion molecule-3 grabbing nonintegrin (DC-SIGN)-related protein is highly expressed on human liver sinusoidal endothelial cells and promotes HIV-1 infection. *J. Exp. Med.* 193: 671-678.
6. Lai, W.K., et al. 2006. Expression of DC-SIGN and DC-SIGNR on human sinusoidal endothelium: a role for capturing hepatitis C virus particles. *Am. J. Pathol.* 169: 200-208.

CHROMOSOMAL LOCATION

Genetic locus: CD209/CLEC4M (human) mapping to 19p13.2.

SOURCE

DC-SIGN/DC-SIGNR (14E3G7) is a mouse monoclonal antibody raised against DC-SIGN of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

DC-SIGN/DC-SIGNR (14E3G7) is recommended for detection of DC-SIGN and DC-SIGNR 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

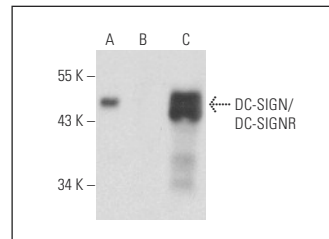
Molecular Weight of DC-SIGN/DC-SIGNR: 44 kDa.

Positive Controls: DC-SIGNR (h): 293T Lysate: sc-115461, THP-1 cell lysate: sc-2238 or PMA and IL-4 treated THP-1 whole cell lysate.

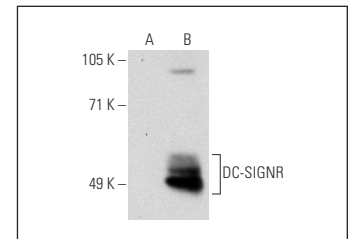
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DC-SIGN/DC-SIGNR (14E3G7): sc-53965. Western blot analysis of human recombinant DC-SIGN fusion protein (A) and DC-SIGN expression in THP-1 (B) and PMA and IL-4 treated THP-1 (C) whole cell lysates.



DC-SIGN/DC-SIGNR (14E3G7): sc-53965. Western blot analysis of DC-SIGNR expression in non-transfected: sc-117752 (A) and human DC-SIGNR transfected: sc-115461 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Froelich, S., et al. 2011. Pseudotyping lentiviral vectors with aura virus envelope glycoproteins for DC-SIGN-mediated transduction of dendritic cells. *Hum. Gene Ther.* 22: 1281-1291.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.