SANTA CRUZ BIOTECHNOLOGY, INC.

DC-SIGN/DC-SIGNR (H-200): sc-20081

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.

CHROMOSOMAL LOCATION

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

SOURCE

DC-SIGN/DC-SIGNR (H-200) is a rabbit polyclonal antibody raised against amino acids 61-200 of DC-SIGN of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

DC-SIGN/DC-SIGNR (H-200) 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

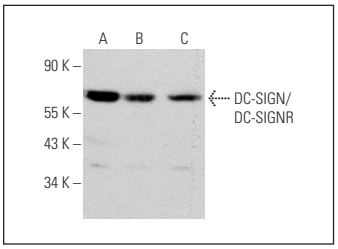
Molecular Weight of DC-SIGN/DC-SIGNR: 44 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, U-937 cell lysate: sc-2239 or THP-1 cell lysate: sc-2238.

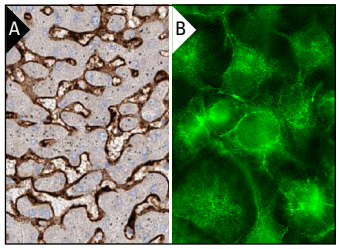
STORAGE

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

DATA



DC-SIGN/DC-SIGNR (H-200): sc-20081. Western blot analysis of DC-SIGN/DC-SIGNR expression in HeLa (**A**), U-937 (**B**) and THP-1 (**C**) whole cell lysates.



DC-SIGN/DC-SIGNR (H-200): sc-20081. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing showing membrane staining of hepatic sinusoids and Kupffer cells at high magnification (**A**) and immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**B**).

SELECT PRODUCT CITATIONS

1. Serrano-Gómez, D., et al. 2008. Structural requirements for multimerization of the pathogen receptor dendritic cell-specific ICAM-3 grabbing non-integrin (CD209) on the cell surface. J. Biol. Chem. 283: 3889-3903.
2. Martinez-Nunez, R.T., et al. 2009. MicroRNA-155 modulates the pathogen binding ability of dendritic cells (DCs) by down-regulation of DC-specific intercellular adhesion molecule-3 grabbing non-integrin (DC-SIGN). J. Biol. Chem. 284: 16334-16342.
3. Gringhuis, S.I., et al. 2010. HIV-1 exploits innate signaling by TLR8 and DC-SIGN for productive infection of dendritic cells. Nat. Immunol. 11: 419-426.
4. Blanchet, F.P., et al. 2010. Human immunodeficiency virus-1 inhibition of immunoamphisomes in dendritic cells impairs early innate and adaptive immune responses. Immunity 32: 654-669.
5. Avota, E., et al. 2011. DC-SIGN mediated sphingomyelinase-activation and ceramide generation is essential for enhancement of viral uptake in dendritic cells. PLoS Pathog. 7: e1001290.

PROTOCOLS

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