

DC-SIGN (5D7): sc-65892

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-SIGN functions to transport HIV-1 from exposed mucosal surfaces to a lymphoid compartment.

REFERENCES

1. Curtis, B.M., et al. 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., et al. 2000. Identification of DC-SIGN, a novel dendritic cell-specific ICAM-3 receptor that supports primary immune responses. *Cell* 100: 575-585.

CHROMOSOMAL LOCATION

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

SOURCE

DC-SIGN (5D7) is a mouse monoclonal antibody raised against a peptide corresponding to amino acids near the C-terminus of DC-SIGN of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DC-SIGN (5D7) 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

Positive Controls: HeLa whole cell lysate: sc-2200 or human uterus extract: sc-363784.

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). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

SELECT PRODUCT CITATIONS

1. Bobryshev, Y.V., et al. 2009. Dendritic cell-associated immune inflammation of cardiac mucosa: a possible factor in the formation of Barrett's esophagus. *J. Gastrointest. Surg.* 13: 442-450.
2. Bobryshev, Y.V., et al. 2010. Expression of the putative stem cell marker Musashi-1 in Barrett's esophagus and esophageal adenocarcinoma. *Dis. Esophagus* 23: 580-589.
3. Bobryshev, Y.V., et al. 2010. Expression of C1q complement component in Barrett's esophagus and esophageal adenocarcinoma. *J. Gastrointest. Surg.* 14: 1207-1213.
4. Bobryshev, Y.V., et al. 2011. Musashi-1 expression in atherosclerotic arteries and its relevance to the origin of arterial smooth muscle cells: histopathological findings and speculations. *Atherosclerosis* 215: 355-365.
5. Boily-Larouche, G., et al. 2012. Naturally-occurring genetic variants in human DC-SIGN increase HIV-1 capture, cell-transfer and risk of mother-to-child transmission. *PLoS ONE* 7: e40706.
6. Pei, G., et al. 2014. Renal interstitial infiltration and tertiary lymphoid organ neogenesis in IgA nephropathy. *Clin. J. Am. Soc. Nephrol.* 9: 255-264.

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.