SANTA CRUZ BIOTECHNOLOGY, INC.

DC-SIGN/DC-SIGNR (B-2): sc-74589

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: CD209/CLEC4M (human) mapping to 19p13.2; Cd209a (mouse) mapping to 8 A1.1.

SOURCE

DC-SIGN/DC-SIGNR (B-2) is a mouse monoclonal antibody raised against amino acids 61-200 of 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.

DC-SIGN/DC-SIGNR (B-2) is available conjugated to agarose (sc-74589 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74589 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74589 PE), fluorescein (sc-74589 FITC), Alexa Fluor® 488 (sc-74589 AF488), Alexa Fluor® 546 (sc-74589 AF546), Alexa Fluor® 594 (sc-74589 AF594) or Alexa Fluor® 647 (sc-74589 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74589 AF680) or Alexa Fluor® 790 (sc-74589 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

DC-SIGN/DC-SIGNR (B-2) is recommended for detection of DC-SIGN and DC-SIGNR of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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: THP-1 cell lysate: sc-2238, HuT 78 whole cell lysate: sc-2208 or human liver extract: sc-363766.

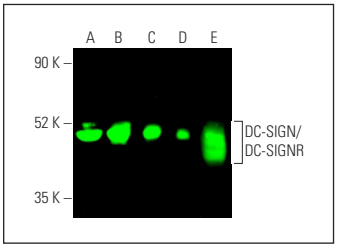
RESEARCH USE

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

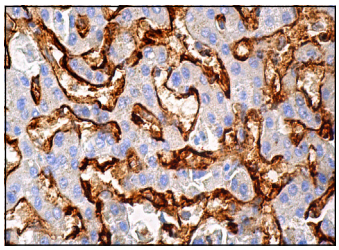
STORAGE

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 (B-2): sc-74589. Near-Infrared western blot analysis of DC-SIGN/DC-SIGNR expression in THP-1 (**A**), HuT 78 (**B**), CCRF-CEM (**C**) and K-562 (**D**) whole cell lysates and human liver tissue extract (**E**). Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2b} BP-CFL 680: sc-542749.



DC-SIGN/CD-SIGNR (B-2): sc-74589. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane staining of hepatic sinusoids and Kupffer cells.

SELECT PRODUCT CITATIONS

1. McNally, A.K. and Anderson, J.M. 2011. Foreign body-type multinucleated giant cells induced by interleukin-4 express select lymphocyte co-stimulatory molecules and are phenotypically distinct from osteoclasts and dendritic cells. Exp. Mol. Pathol. 91: 673-681.
2. McNally, A.K. and Anderson, J.M. 2015. Phenotypic expression in human monocyte-derived interleukin-4-induced foreign body giant cells and macrophages *in vitro:* dependence on material surface properties. J. Biomed. Mater. Res. A 103: 1380-1390.
3. Bai, J., et al. 2015. Contact-dependent carcinoma aggregate dispersion by M2a macrophages via ICAM-1 and β2 Integrin interactions. Oncotarget 6: 25295-25307.
4. Ng, S., et al. 2018. Genetically-encoded fragment-based discovery of glycopeptide ligands for DC-SIGN. Bioorg. Med. Chem. 26: 5368-5377.
5. Chen, W., et al. 2019. DC-SIGN expression in intestinal epithelial cells regulates sepsis-associated acute intestinal injury via activating ERK1/2-NFκB/P65 signaling. Shock 52: 434-442.
6. Zhang, J., et al. 2024. Virus-like structures for combination antigen protein mRNA vaccination. Nat. Nanotechnol. 19: 1224-1233.

PROTOCOLS

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