

DC-SIGN (DC28): sc-65740

BACKGROUND

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

CHROMOSOMAL LOCATION

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

SOURCE

DC-SIGN (DC28) is a mouse monoclonal antibody raised against recombinant DC-SIGN ectodomain of human origin.

PRODUCT

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

DC-SIGN (DC28) is available conjugated to agarose (sc-65740 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-65740 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-65740 PE), fluorescein (sc-65740 FITC), Alexa Fluor® 488 (sc-65740 AF488), Alexa Fluor® 546 (sc-65740 AF546), Alexa Fluor® 594 (sc-65740 AF594) or Alexa Fluor® 647 (sc-65740 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-65740 AF680) or Alexa Fluor® 790 (sc-65740 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

DC-SIGN (DC28) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

DC-SIGN (DC28) is also recommended for detection of DC-SIGN in additional species, including porcine tailed macaque and rhesus macaque.

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.

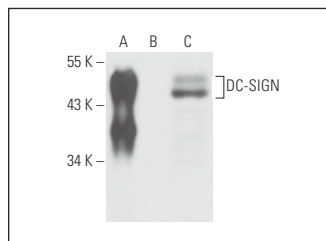
Molecular Weight of DC-SIGN: 44 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, HeLa whole cell lysate: sc-2200 or human uterus extract: sc-363784.

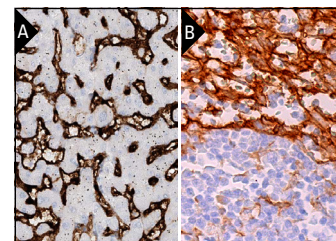
STORAGE

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

DATA



DC-SIGN (DC28): sc-65740. Western blot analysis of human recombinant DC-SIGN (A) and DC-SIGN expression in THP-1 (B) and PMA/IL-4 treated THP-1 (C) whole cell lysates.



DC-SIGN (DC28): sc-65740. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane staining of hepatic sinusoids and Kupffer cells at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing connective tissue staining (B).

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.
2. Wang, P., et al. 2016. DC-SIGN as an attachment factor mediates Japanese encephalitis virus infection of human dendritic cells via interaction with a single high-mannose residue of viral E glycoprotein. *Virology* 488: 108-119.
3. Hassan, R., et al. 2019. Clinical response of live-attenuated, *Listeria monocytogenes* expressing mesothelin (CRS-207) with chemotherapy in patients with malignant pleural mesothelioma. *Clin. Cancer Res.* 25: 5787-5798.
4. Banik, G., et al. 2020. High-dimensional multiplexed immunohistochemical characterization of immune contexture in human cancers. *Methods Enzymol.* 635: 1-20.
5. Kalejaiye, T.D., et al. 2021. BSG/CD147 and ACE2 receptors facilitate SARS-CoV-2 infection of human iPS cell-derived kidney podocytes. *bioRxiv.* 17: 2021.11.16.468893.
6. Johnson, B.E., et al. 2022. An omic and multidimensional spatial atlas from serial biopsies of an evolving metastatic breast cancer. *Cell Rep. Med.* 3: 100525.
7. Pleuger, C., et al. 2022. The regional distribution of resident immune cells shapes distinct immunological environments along the murine epididymis. *Elife* 11: e82193.
8. Garrido-Trigo, A., et al. 2023. Macrophage and neutrophil heterogeneity at single-cell spatial resolution in human inflammatory bowel disease. *Nat. Commun.* 14: 4506.

RESEARCH USE

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