

# DC-SIGN (8C1): sc-53580

## 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.

## REFERENCES

1. Curtis, B.M., Scharnrowske, S. and Watson A.J. 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.H., Torensma, R., van Vliet, S.J., van Duijnhoven, G.C., Adema, G., van Kooyk, Y. and Figdor, C.G. 2000. Identification of DC-SIGN, a novel dendritic cell-specific ICAM-3 receptor that supports primary immune responses. *Cell* 100: 575-585.
4. Geijtenbeek, T.B.H., Kwon, D.S., Torensma, R., van Vliet, S.J., van Duijnhoven, G.C., Middel, J., Cornelissen, I.L., Nottet, H.S., KewalRamani, V.N., Littman D.R., Figdor, C.G. and van Kooyk, Y. 2000. DC-SIGN, a dendritic cell-specific HIV-1-binding protein that enhances *trans*-infection of T cells. *Cell* 100: 587-597.
5. Steinberg, D. 2000. Receptor boosts HIV infection. *Scientist* 14: 12.

## CHROMOSOMAL LOCATION

Genetic locus: CD209 (human) mapping to 19p13.2; Cd209e (mouse) mapping to 8 A1.1.

## SOURCE

DC-SIGN (8C1) is a mouse monoclonal antibody raised against DC-SIGN of pig-tailed macaque origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DC-SIGN (8C1) is available conjugated to agarose (sc-53580 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53580 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53580 PE), fluorescein (sc-53580 FITC), Alexa Fluor® 488 (sc-53580 AF488), Alexa Fluor® 546 (sc-53580 AF546), Alexa Fluor® 594 (sc-53580 AF594) or Alexa Fluor® 647 (sc-53580 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53580 AF680) or Alexa Fluor® 790 (sc-53580 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

DC-SIGN (8C1) is recommended for detection of DC-SIGN of human origin and CD209e of mouse and rat 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 flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

DC-SIGN (8C1) is also recommended for detection of DC-SIGN in additional species, including pig tailed macaque and porcine.

Suitable for use as control antibody for DC-SIGN siRNA (h): sc-43719, CD209e siRNA (m): sc-77365, DC-SIGN shRNA Plasmid (h): sc-43719-SH, CD209e shRNA Plasmid (m): sc-77365-SH, DC-SIGN shRNA (h) Lentiviral Particles: sc-43719-V and CD209e shRNA (m) Lentiviral Particles: sc-77365-V.

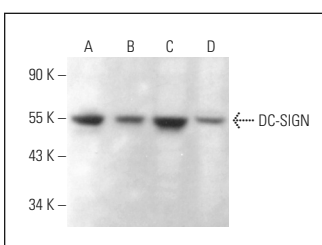
Molecular Weight of DC-SIGN: 44 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

## 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, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



DC-SIGN (8C1): sc-53580. Western blot analysis of DC-SIGN expression in HeLa (A), Jurkat (B), K-562 (C) and Neuro-2A (D) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Luckert, C., Braeuning, A., Lampen, A. and Hessel-Pras, S. 2018. PXR: Structure-specific activation by hepatotoxic pyrrolizidine alkaloids. *Chem. Biol. Interact.* 288: 38-48.

## 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.

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