Siglec-1 (HSn 7D2): sc-53442

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

BACKGROUND

Two families of mammalian lectin-like adhesion molecules, the selectins and the sialoadhesins, bind glycoconjugate ligands in a sialic acid-dependent manner. The sialic acid-binding immunoglobulin superfamily lectins, designated siglecs or sialoadhesins, are immunoglobulin superfamily members that recognize sialylated ligands. The common sialic acids of mammalian cells are N-acetylneuraminic acid (Neu5Ac) and N-glycolylneuraminic acid (Neu5Gc). The human Siglec-1 gene maps to chromosome 20p13 and encodes a 1,709 amino acid protein, also known as CD169. Alternative splicing of the Siglec-1 gene produces a variant, encoding a type I transmembrane protein isoform that is soluble rather than membrane-bound. Studies have shown human Siglec-1 has greater affinity for Neu5Ac over Neu5Gc. Siglec-1 is a sialic acid-binding receptor that is expressed in hemopoietic cells. It mediates local cell-cell interactions in lymphoid tissues and can be detected at contact points of macrophages with other macrophages, sinus-lining cells and reticulum cells.

CHROMOSOMAL LOCATION

Genetic locus: SIGLEC1 (human) mapping to 20p13.

SOURCE

Siglec-1 (HSn 7D2) is a mouse monoclonal antibody raised against the N-terminus of Siglec-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG$_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Siglec-1 (HSn 7D2) is available conjugated to agarose (sc-53442 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53442 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53442 PE), fluorescein (sc-53442 FITC), Alexa Fluor® 488 (sc-53442 AF488), Alexa Fluor® 546 (sc-53442 AF546), Alexa Fluor® 594 (sc-53442 AF594) or Alexa Fluor® 647 (sc-53442 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53442 AF680) or Alexa Fluor® 790 (sc-53442 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Siglec-1 (HSn 7D2) is recommended for detection of Siglec-1 of human origin by 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 10^6 cells).

Suitable for use as control antibody for Siglec-1 siRNA (h): sc-72064, Siglec-1 shRNA Plasmid (h): sc-72064-SH and Siglec-1 shRNA (h) Lentiviral Particles: sc-72064-V.

Molecular Weight of Siglec-1: 185 kDa.

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.

SELECT PRODUCT CITATIONS

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4. Ohnishi, K., et al. 2016. Prognostic significance of CD169-positive lymph node sinus macrophages in patients with endometrial carcinoma. Cancer Sci. 107: 846-852.

5. Aravantinou, M., et al. 2016. PolyICLC exerts pro- and anti-HIV effects on the DC-T cell milieu *in vitro* and *in vivo*. PLoS ONE 11: e0161730.

6. Stromvall, K., et al. 2017. Reduced number of CD169+ macrophages in pre-metastatic regional lymph nodes is associated with subsequent metastatic disease in an animal model and with poor outcome in prostate cancer patients. Prostate 77: 1468-1477.

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8. Fujiwara, Y., et al. 2018. Natural compounds that regulate lymph node sinus macrophages: inducing an anti-tumor effect by regulating macro-phage activation. J. Clin. Exp. Hematop. 58: 17-23.

9. Melzi, E., et al. 2018. Immunophenotyping of sheep paraffin-embedded peripheral lymph nodes. Front. Immunol. 9: 2892.

10. Topf, M.C., et al. 2019. Loss of CD169+ subcapsular macrophages during metastatic spread of head and neck squamous cell carcinoma. Otolaryngol. Head Neck Surg. 161: 67-73.

11. Wang, H., et al. 2019. Expression of New York esophageal squamous cell carcinoma 1 and its association with Foxp3 and indoleamine-2,3-dioxygenase in microenvironment of nonsmall cell lung cancer. HLA 94: 39-48.

12. Kumamoto, K., et al. 2021. CD169 expression on lymph node macrophages predicts in patients with gastric cancer. Front. Oncol. 11: 636751.

13. Kawaguchi, S., et al. 2022. Naringenin potentiates anti-tumor immunity against oral cancer by inducing lymph node CD169-positive macrophage activation and cytotoxic T cell infiltration. Cancer Immunol. Immunother. 71: 2127-2139.

PROTOCOLS

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