

Siglec-10 (1D11): sc-293355

BACKGROUND

Siglec-10 (sialic acid-binding Ig-like lectin 10) is a 697 amino acid protein belonging to the immunoglobulin superfamily. The N-terminal Ig-like domain of Siglec-10 contains a sialic acid-binding site and the C-terminal cytoplasmic region of Siglec-10 contains two immunoreceptor tyrosine-based inhibitor motifs (ITIMs), which are involved in the modulation of cellular responses through SH2 domains. With most expression in spleen, bone marrow and peripheral blood lymphocytes, such as monocytes, natural killer cells and eosinophils, it is likely that Siglec-10 functions as an inhibitory receptor in the immune response. Importantly, Siglec-10 mRNA is found to be highly upregulated in eosinophils at sites of inflammation in asthmatics, suggesting that Siglec-10 may be an appropriate target for new approaches of immunomodulatory therapy. There are six named isoforms of Siglec-10 that are a result of alternative splicing. All isoforms exist as single-pass transmembrane proteins, except for isoform 6, which is secreted.

REFERENCES

1. Yousef, G.M., Ordon, M.H., Foussias, G. and Diamandis, E.P. 2001. Molecular characterization, tissue expression, and mapping of a novel siglec-like gene (SLG2) with three splice variants. *Biochem. Biophys. Res. Commun.* 284: 900-910.
2. Munday, J., Kerr, S., Ni, J., Cornish, A.L., Zhang, J.Q., Nicoll, G., Floyd, H., Mattei, M.G., Moore, P., Liu, D. and Crocker, P.R. 2001. Identification, characterization and leucocyte expression of Siglec-10, a novel human sialic acid-binding receptor. *Biochem. J.* 355: 489-497.
3. Whitney, G., Wang, S., Chang, H., Cheng, K.Y., Lu, P., Zhou, X.D., Yang, W.P., McKinnon, M. and Longphre, M. 2001. A new siglec family member, Siglec-10, is expressed in cells of the immune system and has signaling properties similar to CD33. *Eur. J. Biochem.* 268: 6083-6096.
4. Li, N., Zhang, W., Wan, T., Zhang, J., Chen, T., Yu, Y., Wang, J. and Cao, X. 2001. Cloning and characterization of Siglec-10, a novel sialic acid binding member of the Ig superfamily, from human dendritic cells. *J. Biol. Chem.* 276: 28106-28112.
5. Kitzig, F., Martinez-Barriocanal, A., López-Botet, M. and Sayós, J. 2002. Cloning of two new splice variants of Siglec-10 and mapping of the interaction between Siglec-10 and SHP-1. *Biochem. Biophys. Res. Commun.* 296: 355-362.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606091. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Aizawa, H., Zimmermann, N., Carrigan, P.E., Lee, J.J., Rothenberg, M.E. and Bochner, B.S. 2003. Molecular analysis of human Siglec-8 orthologs relevant to mouse eosinophils: identification of mouse orthologs of Siglec-5 (mSiglec-F) and Siglec-10 (mSiglec-G). *Genomics* 82: 521-530.

CHROMOSOMAL LOCATION

Genetic locus: SIGLEC10 (human) mapping to 19q13.41.

RESEARCH USE

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

SOURCE

Siglec-10 (1D11) is a mouse monoclonal antibody raised against amino acids 589-696 of Siglec-10 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Siglec-10 (1D11) is recommended for detection of Siglec-10 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

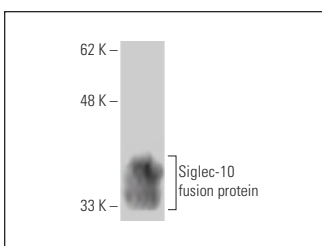
Suitable for use as control antibody for Siglec-10 siRNA (h): sc-97663, Siglec-10 shRNA Plasmid (h): sc-97663-SH and Siglec-10 shRNA (h) Lentiviral Particles: sc-97663-V.

Molecular Weight of Siglec-10: 77 kDa.

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



Siglec-10 (1D11): sc-293355. Western blot analysis of human recombinant Siglec-10 fusion protein.

STORAGE

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

PROTOCOLS

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