

Siglec-12 (X-23): sc-130875

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, are immunoglobulin superfamily members that recognize sialylated ligands. Siglecs are important in the functions of the hemopoietic, immune and nervous systems. Siglec-12, also designated Siglec-L1, is expressed on the luminal edge of epithelial cell surfaces. The Siglec-12 transcript is alternatively spliced, resulting in a short and long isoform. Siglec-12 lacks a conserved arginine residue known to be necessary for optimal sialic acid recognition by other previously known Siglecs. This arginine loss from an ancestral molecule was caused by a single nucleotide substitution that occurred between the common ancestor of humans with the great apes, and the origin of modern humans.

REFERENCES

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2. Brinkman-Van der Linden, E.C., Sjoberg, E.R., Juneja, L.R., Crocker, P.R., Varki, N. and Varki, A. 2000. Loss of N-glycolylneuraminic acid in human evolution. Implications for sialic acid recognition by Siglecs. *J. Biol. Chem.* 275: 8633-8640.
3. Angata, T., Varki, N.M. and Varki, A. 2001. A second uniquely human mutation affecting sialic acid biology. *J. Biol. Chem.* 276: 40282-40287.
4. Crocker, P.R. and Varki, A. 2001. Siglecs in the immune system. *Immunology* 103: 137-145.
5. Crocker, P.R. and Varki, A. 2001. Siglecs, sialic acids and innate immunity. *Trends Immunol.* 22: 337-342.
6. Crocker, P.R. 2002. Siglecs: sialic-acid-binding immunoglobulin-like lectins in cell-cell interactions and signalling. *Curr. Opin. Struct. Biol.* 12: 609-615.
7. Sonnenburg, J.L., Altheide, T.K. and Varki, A. 2004. A uniquely human consequence of domain-specific functional adaptation in a sialic acid-binding receptor. *Glycobiology* 14: 339-346.

CHROMOSOMAL LOCATION

Genetic locus: SIGLEC12 (human) mapping to 19q13.33.

SOURCE

Siglec-12 (X-23) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of Siglec-12 of human origin.

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.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Siglec-12 (X-23) is recommended for detection of Siglec-12 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Siglec-12 siRNA (h): sc-61552, Siglec-12 shRNA Plasmid (h): sc-61552-SH and Siglec-12 shRNA (h) Lentiviral Particles: sc-61552-V.

Molecular Weight of Siglec-12: 51.9 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 2) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

PROTOCOLS

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