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SIGLEC3 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP1622b

Specification

SIGLEC3 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession P20138

SIGLEC3 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 945

Other Names
Myeloid cell surface antigen CD33, Sialic acid-binding Ig-like lectin 3, Siglec-3, gp67, CD33, CD33, SIGLEC3

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP1622b was selected from the C-term region of human SIGLEC3 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

SIGLEC3 Antibody (C-term) Blocking Peptide - Protein Information

Name CD33

Synonyms SIGLEC3

Function
Sialic-acid-binding immunoglobulin-like lectin (Siglec) that plays a role in mediating cell-cell interactions and in maintaining immune cells in a resting state (PubMed:10611343, PubMed:15597323, PubMed:11320212). Preferentially recognizes and binds alpha-2,3- and more avidly alpha-2,6-linked sialic acid-bearing glycans (PubMed:7718872). Upon engagement of ligands such as C1q or syalylated glycoproteins, two immunoreceptor tyrosine-based inhibitory motifs (ITIMs) located in CD33 cytoplasmic tail are phosphorylated by

Src-like kinases such as LCK (PubMed:28325905, PubMed:10887109). These phosphorylations provide docking sites for the recruitment and activation of protein-tyrosine phosphatases PTPN6/SHP-1 and PTPN11/SHP- 2 (PubMed:10556798, PubMed:10206955, PubMed:10887109). In turn, these phosphatases regulate downstream pathways through dephosphorylation of signaling molecules (PubMed:10206955, PubMed:10887109). One of the repressive effect of CD33 on monocyte activation requires phosphoinositide 3-kinase/PI3K (PubMed:15597323).

Cellular Location
[Isoform CD33M]: Cell membrane; Single-pass type I membrane protein

Tissue Location
Monocytic/myeloid lineage cells. In the brain, CD33 is mainly expressed on microglial cells

SIGLEC3 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

SIGLEC3 Antibody (C-term) Blocking Peptide - Images

SIGLEC3 Antibody (C-term) Blocking Peptide - Background

SIGLEC3 is a putative adhesion molecule of myelomonocytic-derived cells that mediates sialic-acid dependent binding to cells. It preferentially binds to alpha2,6-linked sialic acid; the sialic acid recognition site may be masked by cis interactions with sialic acids on the same cell surface. In the immune response, SIGLEC3 may act as an inhibitory receptor upon ligand induced tyrosine phosphorylation by recruiting cytoplasmic phosphatase(s) via their SH2 domain(s) that block signal transduction through dephosphorylation of signaling molecules. This protein Induces apoptosis in acute myeloid leukemia (in vitro). It has been shown to interact with PTPN6/SHP-1 and PTPN11/SHP-2 upon phosphorylation. SIGLEC3 expresses in monocytic/myeloid lineage cells, and contains 2 copies of a cytoplasmic motif that is referred to as the immunoreceptor tyrosine-based inhibitor motif (ITIM). This motif is involved in downmodulation of cellular responses. The phosphorylated ITIM motif binds to the SH2 domain of PTPN6/SHP-1. Phosphorylation of Tyr-340 is involved in binding to PTPN6 and PTPN11. Phosphorylation of Tyr-358 is involved in binding to PTPN6. The gene for SIGLEC3 belongs to the immunoglobulin superfamily.

SIGLEC3 Antibody (C-term) Blocking Peptide - References

Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).Yousef, G.M., et al., Gene 286(2):259-270 (2002).Vitale, C., et al., Proc. Natl. Acad. Sci. U.S.A. 98(10):5764-5769 (2001).Taylor, V.C., et al., J. Biol. Chem. 274(17):11505-11512 (1999).Ulyanova, T., et al., Eur. J. Immunol. 29(11):3440-3449 (1999).