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CD33 Antibody
Mouse Monoclonal Antibody (Mab)
Catalog # AM2149b

Specification

CD33 Antibody - Product Information

Application	**IF, WB,E**
Primary Accession	P20138
Other Accession	NP_001763.3
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgM**
Calculated MW	**39825**
Antigen Region	**337-364**

CD33 Antibody - 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
This CD33 antibody is generated from mice immunized with a KLH conjugated synthetic peptide between 337-364 amino acids from human CD33.

Dilution
IF~~1:10~50
WB~~1:500~1000
E~~Use at an assay dependent concentration.

Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Euglobin precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
CD33 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

CD33 Antibody - 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:11320212, PubMed:15597323). 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:10887109, PubMed:28325905). These phosphorylations provide docking sites for the recruitment and activation of protein-tyrosine phosphatases PTPN6/SHP-1 and PTPN11/SHP- 2 (PubMed:10206955, PubMed:10556798, 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

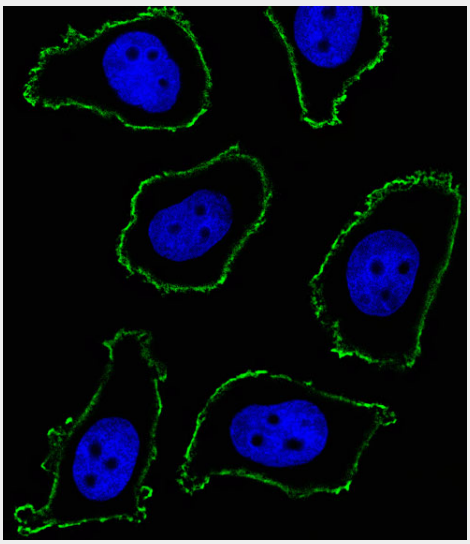
Tissue Location
Monocytic/myeloid lineage cells. In the brain, CD33 is mainly expressed on microglial cells

CD33 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CD33 Antibody - Images



Fluorescent image of A549 cell stained with CD33 Antibody(Cat#AM2149b/SM120504AC).A549

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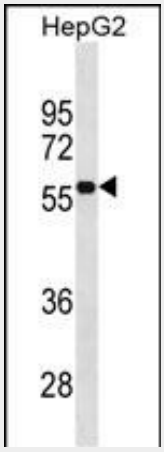
cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with CD33 primary antibody (1:25, 1 h at 37℃. For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-mouse antibody (green) was used (1:400, 50 min at 37℃. Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min).CD33 immunoreactivity is localized to Membrane significantly.



CD33 Antibody(Cat. #AM2149b) western blot analysis in HepG2 cell line lysates (35µg/lane).This demonstrates the CD33 antibody detected the CD33 protein (arrow).

CD33 Antibody - Background

Putative adhesion molecule of myelomonocytic-derived cells that mediates sialic-acid dependent binding to cells. Preferentially binds to alpha-2,6-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, 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. Induces apoptosis in acute myeloid leukemia (in vitro).

CD33 Antibody - References

Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :
Davila, S., et al. Genes Immun. 11(3):232-238(2010)
Akahane, K., et al. Leukemia 24(4):865-869(2010)
Shamsasenjan, K., et al. Int. J. Hematol. 89(3):310-318(2009)
Bertram, L., et al. Am. J. Hum. Genet. 83(5):623-632(2008)