10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CD33 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO2310a

Product Information

Application	WB, IHC, FC, E
Primary Accession	P20138
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2C6B7
Isotype	IgG1
Calculated MW	39825
Description	The protein encoded by this gene belongs to 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) and CD33 plays potential key roles in the pathogenesis of Alzheimer's disease (AD)
Immunogen	Purified recombinant fragment of human CD33 (AA: 15-237) expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

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
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. 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.

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

References

1. MAbs. 2011 Jan-Feb;3(1):21-30. 2. Hum Genet. 2012 Jul;131(7):1245-9.

Images

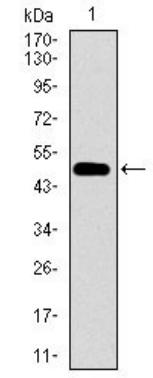


Figure 1: Western blot analysis using CD33 mAb against human CD33 recombinant protein. (Expected MW is 49.2 kDa)

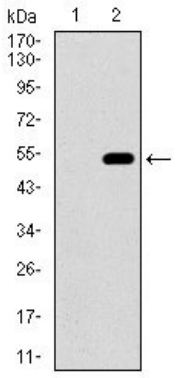


Figure 2: Western blot analysis using CD33 mAb against HEK293 (1) and CD33 (AA: 15-237)-hIgGFc transfected HEK293 (2) cell lysate.

Figure 3: Western blot analysis using CD33 mouse mAb against THP-1 (1) cell lysate.

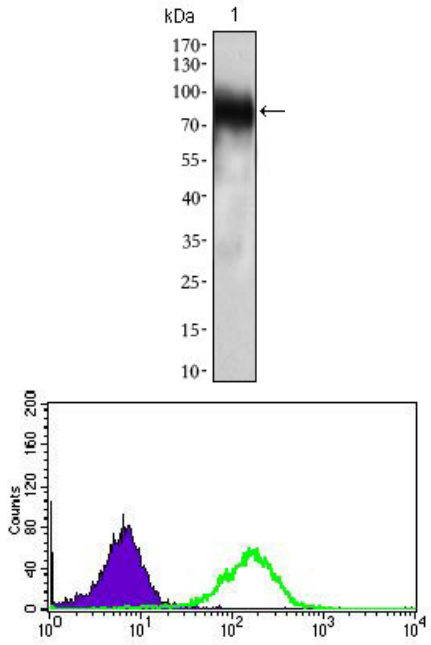


Figure 5: Flow cytometric analysis of HeLa cells using CD33 mouse mAb (green) and negative control (purple).

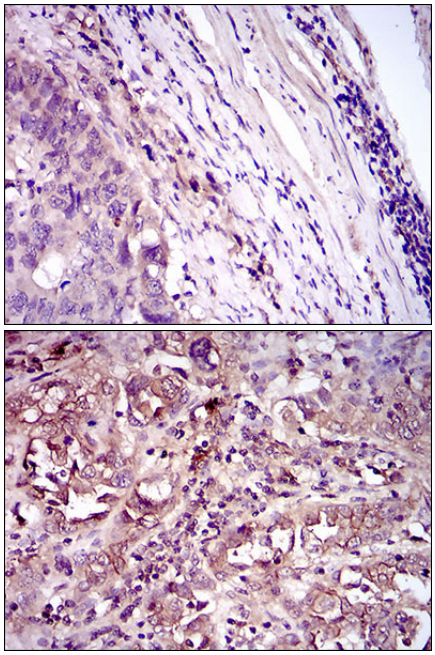


Figure 6: Immunohistochemical analysis of paraffin-embedded esophageal cancer tissues using CD33 mouse mAb with DAB staining.

Figure 7: Immunohistochemical analysis of paraffin-embedded endometrium tissues using CD33 mouse mAb with DAB staining.

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