10320 Camino Santa Fe, Suite G
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CD33 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO2310a

Specification

CD33 Antibody - Product Information

Application	**E, WB, FC, IHC**
Primary Accession	P20138
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**39.8kDa KDa**

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.

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

Dilution
E~~1/10000
WB~~1/500 - 1/2000
FC~~1/200 - 1/400
IHC~~1/200 - 1/1000

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.

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: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

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

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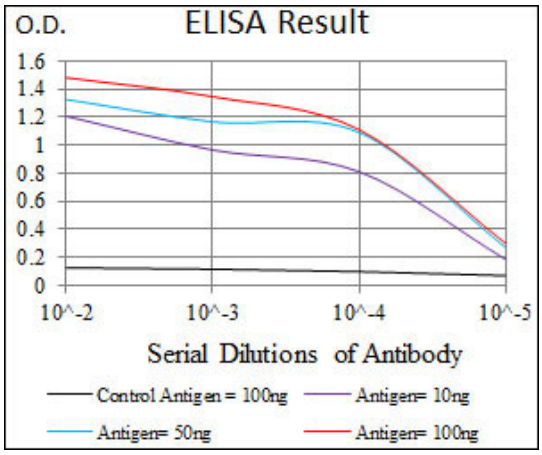

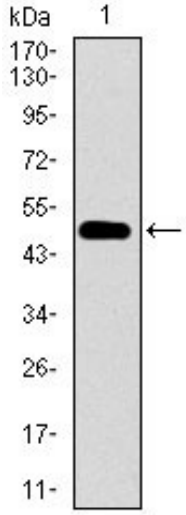

Figure 1: Western blot analysis using CD33 mAb against human CD33 recombinant protein. (Expected MW is 49.2 kDa)

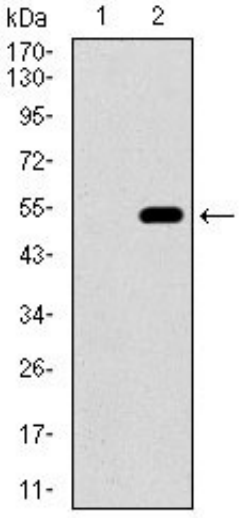

Figure 2: Western blot analysis using CD33 mAb against HEK293 (1) and CD33 (AA: 15-237)-hIgGFc transfected HEK293 (2) cell lysate.

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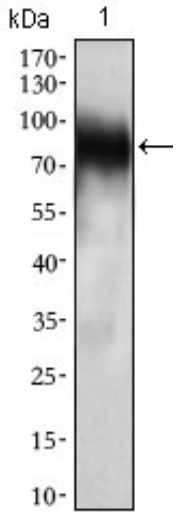

Figure 3: Western blot analysis using CD33 mouse mAb against THP-1 (1) cell lysate.

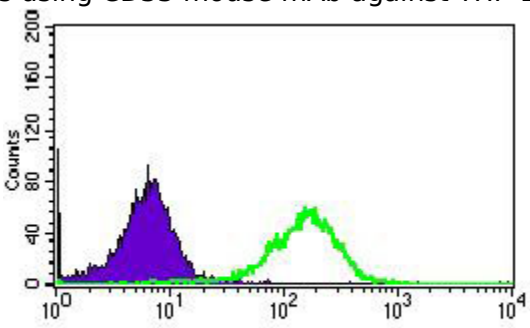

Figure 5: Flow cytometric analysis of HeLa cells using CD33 mouse mAb (green) and negative control (purple).

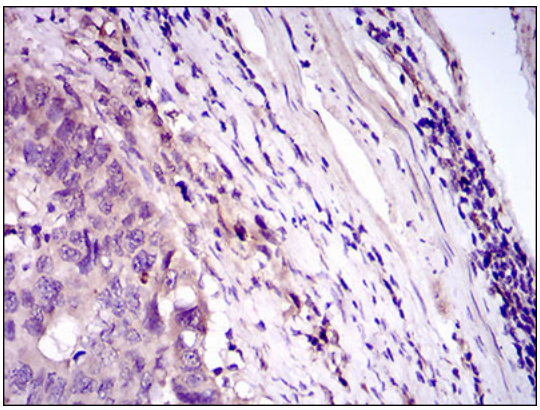

Figure 6: Immunohistochemical analysis of paraffin-embedded esophageal cancer tissues using CD33 mouse mAb with DAB staining.

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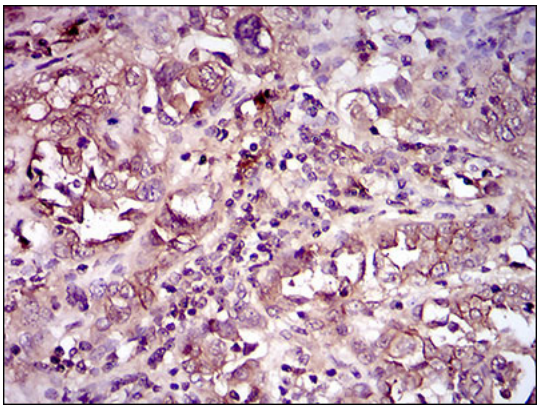

Figure 7: Immunohistochemical analysis of paraffin-embedded endometrium tissues using CD33 mouse mAb with DAB staining.

CD33 Antibody - References

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