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 # AO1215a

Product Information

Application	WB, E
Primary Accession	P20138
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2B7C12
Isotype	IgG1
Calculated MW	39825
Description	CD33 is found on granulocyte and macrophage precursors in the bone marrow, but is not on pluripotent stem cells. The protein is also expressed on, and is a useful marker for, peripheral monocytes. It is also useful for distinguishing myelogenous leukaemia cells from lymphoid or erythroid leukaemias.
Immunogen	Purified recombinant fragment of CD33 (48-258) 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 E~~N/A
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. Exp Hematol. 2005 Feb;33(2):199-211. 2. Cancer. 2008 Feb 1;112(3):572-80.

Images

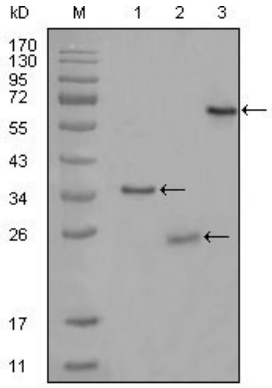


Figure 1: Western blot analysis using CD33 mouse mAb against truncated Trx-CD33 recombinant protein (1),truncated CD33 (aa48-258)-His recombinant protein (2) and truncated CD33 (aa18-259)-hIgGFc transfected CHO-K1 cell lysate (3).

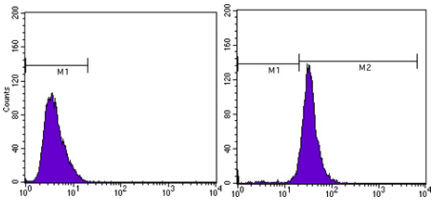


Figure 3: Flow cytometric analysis of MCF-7 cells using beta Actin mouse mAb (right) and negative control (left).

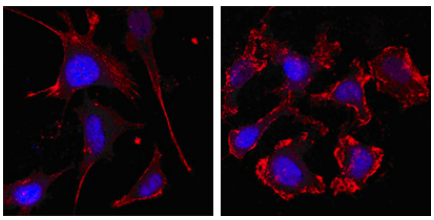
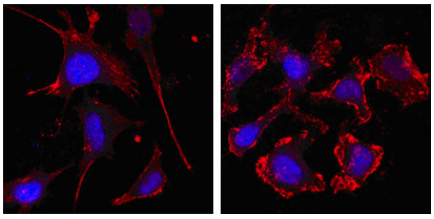


Figure 2: Confocal immunofluorescence analysis of SKBR-3 (left) and A549 (right) cells using beta Actin mouse mAb (red, the secondary Ab is Cy3-Goat anti mouse IgG). Blue: DRAQ5 fluorescent DNA dye.

Figure 3: Confocal immunofluorescence analysis of SKBR-3 (left) and A549 (right) cells using anti-beta Actin



mAb (red, the secondary Ab is Cy3-Goat anti mouse IgG).
Blue: DRAQ5 fluorescent DNA dye.