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CD33 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1215a

Specification

CD33 Antibody - Product Information

Application	**WB, E**
Primary Accession	P20138
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**

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.

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
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.

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

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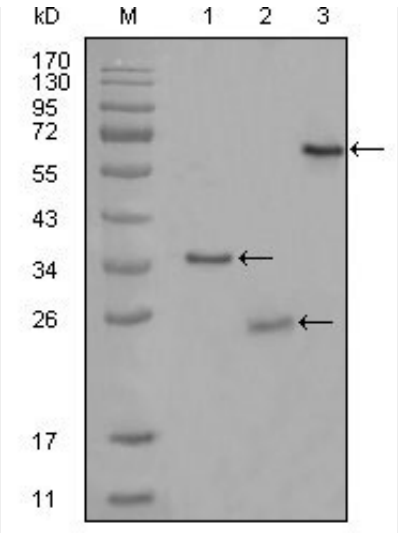

Figure 1: Western blot analysis using CD33 mouse mAb against truncated Trx-CD33 recombinant protein (1),truncated CD33 (aa48-258)-His recombinant protein (2) and truncated CD33 (aa18-259)-hIgGFc transfected CHO-K1 cell lysate (3).

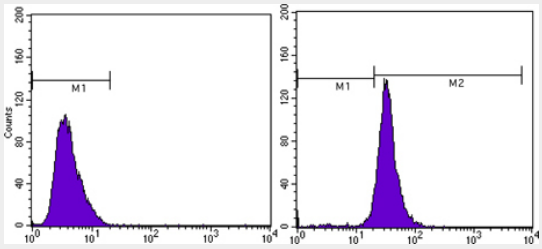

Figure 3: Flow cytometric analysis of MCF-7 cells using beta Actin mouse mAb (right) and negative control (left).

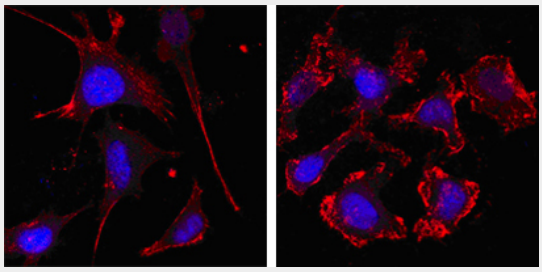

Figure 2: Confocal immunofluorescence analysis of SKBR-3 (left) and A549 (right) cells using beta Actin mouse mAb (red, the secondary Ab is Cy3-Goat anti mouse IgG). Blue: DRAQ5 fluorescent DNA dye.

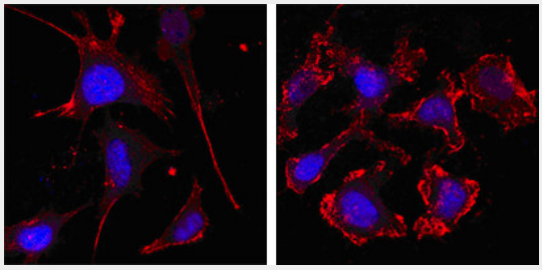

Figure 3: Confocal immunofluorescence analysis of SKBR-3 (left) and A549 (right) cells using anti-beta Actin mAb (red, the secondary Ab is Cy3-Goat anti mouse IgG). Blue: DRAQ5 fluorescent DNA dye.

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CD33 Antibody - References

1. Exp Hematol. 2005 Feb;33(2):199-211. 2. Cancer. 2008 Feb 1;112(3):572-80.

CD33 Antibody - Citations

- The nuclear transcription factor RelB functions as an oncogene in human lung adenocarcinoma SPC-A1 cells.
- CHIP functions as an oncogene by promoting colorectal cancer metastasis via activation of MAPK and AKT signaling and suppression of E-cadherin.
- Ubiquitin ligase CHIP functions as an oncogene and activates the AKT signaling pathway in prostate cancer.
- miR-17-92 plays an oncogenic role and conveys chemo-resistance to cisplatin in human prostate cancer cells.
- Cigarette smoking exposure alters pebp1 DNA methylation and protein profile involved in MAPK signaling pathway in mice testis.