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SM1103PS Monoclonal Antibody to CD33 / SIGLEC3 - Purified

Alternate names:	Myeloid cell surface antigen CD33, Sialic acid-binding Ig-like lectin 3, Siglec-3, gp67
Quantity:	0.1 mg
Concentration:	1.0 mg/ml
Background:	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.
Uniprot ID:	P20138
NCBI:	NP_001763.3
GeneID:	945
Host / Isotype:	Mouse / IgG1
Recommended Isotype Controls:	SM10P (for use in human samples), AM03095PU-N
Clone:	WM53
Immunogen:	Human AML cells. Spleen cells from immunised BALB/c mice were fused with cells of the mouse NS1 myeloma cell line.
Format:	**State:** Liquid purified IgG fraction from Tissue Culture Supernatant **Purification:** Affinity Chromatography on Protein G **Buffer System:** PBS, pH 7.4 **Preservatives:** 0.09% Sodium Azide
Applications:	**Flow Cytometry:** Use 10 µl of 1/10-1/50 diluted antibody to label 10e6 cells. **Western blot.** **Immunoprecipitation.** **Immunohistochemistry on Frozen Sections:** 1/50-1/100 (Overnight incubation recommended). The epitope recognized by this antibody is reported to be sensitive to formaldehyde fixation and tissue processing. We recommends the use of acetone fixation for frozen sections. ***Positive Control Tissue***: Lymphatic tissue. Not suitable on Paraffin Embedded Sections. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	Recognizes the CD33 cell surface glycoprotein, a 67kD molecule expressed by monocytes, granulocyte precursors, myeloid progenitor cells and myeloid leukaemias.
Species Reactivity:	**Tested:** Human.

Storage:

Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. Favaloro EJ, Bradstock KF, Kabral A, Grimsley P, Berndt MC. Characterization of monoclonal antibodies to the human myeloid-differentiation antigen, 'gp67' (CD-33). Dis Markers. 1987 Dec;5(4):215-25. PubMed PMID: 3502990.
2. Favaloro, E.J. et al. (1988) Further characterisation of myeloid antigens ('gp160,95', 'gp150' and 'gp67'): Investigation of epitopic heterogeneity and non-haemopoietic distribution using panels of monoclonal antibodies belonging to CD-11b, CD-13 and CD33. Br. J. Haematol. 69: 163-171.
3. Hernández-Caselles T, Martínez-Esparza M, Pérez-Oliva AB, Quintanilla-Cecconi AM, García-Alonso A, Alvarez-López DM, et al. A study of CD33 (SIGLEC-3) antigen expression and function on activated human T and NK cells: two isoforms of CD33 are generated by alternative splicing. J Leukoc Biol. 2006 Jan;79(1):46-58. PubMed PMID: 16380601.
4. Biedermann B, Gil D, Bowen DT, Crocker PR. Analysis of the CD33-related siglec family reveals that Siglec-9 is an endocytic receptor expressed on subsets of acute myeloid leukemia cells and absent from normal hematopoietic progenitors. Leuk Res. 2007 Feb;31(2):211-20. Epub 2006 Jul 10. PubMed PMID: 16828866.
5. Lajaunias F, Dayer JM, Chizzolini C. Constitutive repressor activity of CD33 on human monocytes requires sialic acid recognition and phosphoinositide 3-kinase-mediated intracellular signaling. Eur J Immunol. 2005 Jan;35(1):243-51. PubMed PMID: 15597323.
6. Pietschmann P, Hahn P, Kudlacek S, Thomas R, Peterlik M. Surface markers and transendothelial migration of dendritic cells from elderly subjects. Exp Gerontol. 2000 Mar;35(2):213-24. PubMed PMID: 10767580.
7. Favaloro EJ. Differential expression of surface antigens on activated endothelium. Immunol Cell Biol. 1993 Dec;71 (Pt 6):571-81. PubMed PMID: 8314284.
8. Yasukawa, T. et al. (2012) Simple and rapid detection of surface antigens on living cells by applying distinct cell positioning with negative dielectrophoresis. Anal Chem. Sep 16.

Pictures:

Staining of human peripheral blood monocytes with Mouse anti Human CD33 antibody (SM1103P/PS/PT).