

## Monoclonal Antibody to CD34 Class III - Purified

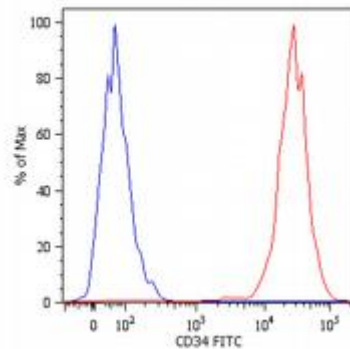
<b>Alternate names:</b>	Hematopoietic progenitor cell antigen CD34, Hematopoietic progenitor cell marker
<b>Catalog No.:</b>	SM3018P
<b>Quantity:</b>	0.1 mg
<b>Concentration:</b>	1.0 mg/ml
<b>Background:</b>	CD34 is a highly glycosylated monomeric 111-115 kDa surface protein, which is present on many stem cell populations. It is a well established stem cell marker, though its expression on human hematopoietic stem cells is reversible. CD34 probably serves as a surface receptor that undergoes receptor-mediated endocytosis and regulates adhesion, differentiation and proliferation of hematopoietic stem cells and other progenitors. CD34 expression is likely to represent a specific state of hematopoietic development that may have altered adhering properties with expanding and differentiating capabilities in both in vitro and in vivo conditions.
<b>Uniprot ID:</b>	<a href="#">P28906</a>
<b>NCBI:</b>	<a href="#">NP_001020280.1</a>
<b>GeneID:</b>	<a href="#">947</a>
<b>Host / Isotype:</b>	Mouse / IgG1
<b>Clone:</b>	4H11
<b>Immunogen:</b>	Permanent human cell line derived from peripheral leucocytes of a patient suffering from chronic myeloid leukaemia
<b>Format:</b>	<b>State:</b> Liquid purified Ig fraction (> 95% by SDS-PAGE) <b>Purification:</b> Precipitation methods <b>Buffer System:</b> PBS pH 7.4 with 15 mM Sodium Azide as preservative
<b>Applications:</b>	<b>Flow Cytometry:</b> 2 µg/ml. <b>Western blot</b> (non-reducing conditions): 2 µg/ml. <i>Positive control:</i> Kg-1a human leukemia cell lysate. <i>Negative control:</i> JURKAT human leukemia T-cell line. <i>Sample preparation:</i> Resuspend approx. 50 mil. cells in 1 ml cold Lysis buffer (1% laurylmaltoside in 20 mM Tris/Cl, 100 mM NaCl pH 8.2, 50 mM NaF including Protease inhibitor Cocktail). Incubate 60 min on ice. Centrifuge to remove cell debris. Mix lysate with non-reducing SDS-PAGE sample buffer. <b>Immunohistochemistry on Paraffin Sections:</b> 10 µg/ml. Positive tissue: placenta endothelium. <b>Immunocytochemistry.</b> Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

**For research and in vitro use only. Not for diagnostic or therapeutic work.**

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- Specificity:** The antibody reacts with Class III epitope on CD34, a 110-115 kDa monomeric transmembrane phosphoglycoprotein expressed on hematopoietic progenitors cells and on the most pluripotential stem cells; it is gradually lost on progenitor cells. The antibody completely blocks binding of Class II antibody QBEnd10 and Class III antibodies BIRMA K3 and 8G12 on KG1a cell line.
- Species Reactivity:** **Tested:** Human
- Storage:** Store the antibody 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 References:**
1. Krauter J, Hartl M, Hambach L, Kohlenberg A, Gunsilius E, Ganser A, Heil G: Receptor-mediated endocytosis of CD34 on hematopoietic cells after stimulation with the monoclonal antibody anti-HPCA-1. *J Hematother Stem Cell Res.* 2001 Dec;10(6):863-71.
  2. Dao MA, Arevalo J, Nolte JA: Reversibility of CD34 expression on human hematopoietic stem cells that retain the capacity for secondary reconstitution. *Blood.* 2003 Jan 1;101(1):112-8.
  3. Gangenahalli GU, Singh VK, Verma YK, Gupta P, Sharma RK, Chandra R, Gulati S, Luthra PM: Three-dimensional structure prediction of the interaction of CD34 with the SH3 domain of Crk-L. *Stem Cells Dev.* 2005 Oct;14(5):470-7.
  4. Gangenahalli GU, Singh VK, Verma YK, Gupta P, Sharma RK, Chandra R, Luthra PM: Hematopoietic stem cell antigen CD34: role in adhesion or homing. *Stem Cells Dev.* 2006 Jun;15(3):305-13.
  5. Leukocyte Typing VI., Kishimoto T. et al. (Eds.), Garland Publishing Inc. (1997).
  6. Elknerová K, Lacinová Z, Soucek J, Marinov I, Stöckbauer P: Growth inhibitory effect of the antibody to hematopoietic stem cell antigen CD34 in leukemic cell lines. *Neoplasma.* 2007;54(4):311-20.

**Pictures:**

Surface staining of Kg-1a human acute myelogenous leukemia cell line with anti-human CD34 (4H11[APG]) FITC. Total viable cells were used for analysis.

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