

DESCRIPTION	
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CD34 in direct ELISA.
<b>Source</b>	Monoclonal Rabbit IgG Clone # 2936H
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Chinese Hamster Ovary cell line, CHO-derived human CD34 Ser32-Thr290 Accession # P28906
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Flow Cytometry</b>	0.25 µg/10 <sup>6</sup> cells	PBMC lymphocytes and KG-1a human acute myelogenous leukemia cells
<b>Immunocytochemistry</b>	3-15 µg/mL	Immersion fixed KG-1 human acute myelogenous leukemia cells (positive) and K562 human chronic myelogenous leukemia cells (negative)

**DATA**

**Flow Cytometry**

**Detection of CD34 in PBMC lymphocytes cells by Flow Cytometry.** PBMC lymphocytes were stained with Mouse Anti-Human CD45 PE-conjugated Monoclonal Antibody (Catalog # FAB1430P) and either (A) Rabbit Anti-Human CD34 Monoclonal Antibody (Catalog # MAB11441) or (B) Normal Rabbit IgG Control (Catalog # MAB1050) followed by Allophycocyanin-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # F0111). View our protocol for [Staining Membrane-associated Proteins](#).

**Immunocytochemistry**

**Detection of CD34 in KG-1 cells (positive) and K562 (negative) cells.** CD34 was detected in immersion fixed KG-1 human acute myelogenous leukemia cells (positive) and absent in K562 human chronic myelogenous leukemia cells (negative) using Rabbit Anti-Human CD34 Monoclonal Antibody (Catalog # MAB11441) at 3 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rabbit IgG Secondary Antibody (red; Catalog # NL004) and counterstained with DAPI (blue). Specific staining was localized to cell cytoplasm. View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

**Flow Cytometry**

**Detection of CD34 in KG-1a cells by Flow Cytometry.** KG-1a cells were stained with Rabbit Anti-Human CD34 Monoclonal Antibody (Catalog # MAB11441, filled histogram) or isotype control antibody (Catalog # AB-105-C, open histogram), followed by Allophycocyanin-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # F0111). View our protocol for [Staining Membrane-associated Proteins](#).

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

CD34 is a 115 kDa glycosylated type I transmembrane protein; it was discovered as a hematopoietic cell-surface antigen (1, 2, 3). Human CD34 cDNA encodes a 385 amino acid (aa) precursor that contains a 31 aa signal sequence, a 259 aa extracellular domain (ECD), a 21 aa transmembrane sequence, and a 74 aa cytoplasmic domain. Within the ECD, human CD34 shares 55% and 52% aa sequence identity with mouse and rat CD34, respectively. This single-pass sialomucin-like transmembrane protein is heavily glycosylated and phosphorylated by Protein Kinase C (PKC) (4, 5). CD34 is found on multipotent precursors, bone marrow stromal cells, embryonic fibroblasts, vascular endothelia, as well as some populations of mesenchymal stem cells, and tumor cell lines, and it is a common marker for diverse progenitors (6). CD34 is involved in the adhesion of stem cells to the bone marrow extracellular matrix or to stromal cells.

**References:**

1. Civin C.I. *et al.* (1984) *J. Immunol.* **133**:157.
2. Katz F. *et al.* (1985) *Leuk. Res.* **9**:191.
3. Andrews R.G. *et al.* (1986) *Blood* **67**:842.
4. Young P.E. *et al.* (1995) *Blood* **85**:96.
5. Krause D.S. *et al.* (1996) *Blood* **87**:1.
6. Sidney L.E. *et al.* (2014) *Stem Cells* **32**:1380.