

Human CD34 Antibody

Monoclonal Rabbit IgG Clone # 2936H Catalog Number: MAB11441

DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human CD34 in direct ELISA.
Source	Monoclonal Rabbit IgG Clone # 2936H
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived human CD34 Ser32-Thr290 Accession # P28906
Formulation	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
Flow Cytometry	0.25 μg/10 ⁶ cells	PBMC lymphocytes and KG-1a human acute myelogenous leukemia cells
Immunocytochemistry	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 Membraneassociated Proteins

Immunocytochemistry

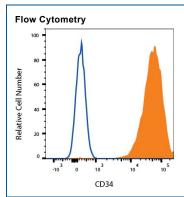


KG-1 (Positive) cells



K562 (Negative) cells

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™ 557conjugated 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.



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 Membraneassociated Proteins.

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PREPARATION AND STORAGE		
Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.	
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.	
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 6 months, -20 to -70 °C under sterile conditions after reconstitution.	

BACKGROUND

CD34 is a 115 kDa glycosylated type I transmembrane protein; it was discovered as a hematopoietic cell-surface antigen (1, 2, 3). Human CD33 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.