

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD34 in direct ELISA.
Source	Recombinant 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
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Flow Cytometry	Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was Human PBMC lymphocytes.
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PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied.

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.

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