

TECHNICAL DATA SHEET

CyFlow™ CD34 FITC Anti-Hu; Clone 581

REF AF853026

For Research Use Only.

Not for use in diagnostic or therapeutic procedures.

Specifications

Antigen	CD34
Alternative Names	—
Clone	581
Clonality	monoclonal
Format	FITC
Host / Isotype	Mouse / IgG1
Species Reactivity	Human, Non-Human Primates
Negative Species Reactivity	—
Quantity	100 tests
Immunogen	< no data >

Specificity

The mouse monoclonal antibody 581 recognizes CD34 antigen, a 110-115 kDa monomeric transmembrane phosphoglycoprotein expressed on hematopoietic progenitors cells and on the most

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pluripotential stem cells; it is gradually lost on progenitor cells. The antibody recognizes the class III CD34 epitope resistant to neuraminidase, chymopapain and glycoprotease.

Application

The reagent is designed for Flow Cytometry analysis of human blood cells. Recommended usage is 4 µl reagent / 100 µl of whole blood or 10⁶ cells in a suspension. The content of a vial (0.4 ml) is sufficient for 100 tests.

Other usages may be determined from the scientific literature.

Storage Buffer

The reagent is provided in stabilizing phosphate buffered saline (PBS) solution, pH ≈7.4, containing 0.1% (w/v) sodium azide.

Storage and Stability

Storage	Avoid prolonged exposure to light. Store in the dark at 2-8°C. Do not freeze.
Stability	Do not use after expiration date stamped on vial label.

Background Information

CD34 (Mucosialin) 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.

References

- Janowska-Wieczorek A, Marquez LA, Nabholz JM, Cabuhat ML, Montañó J, Chang H, Rozmus J, Russell JA, Edwards DR, Turner AR: Growth factors and cytokines upregulate gelatinase expression in bone marrow CD34(+) cells and their transmigration through reconstituted basement membrane. Blood. 1999 May 15; 93(10):3379-90. < PMID: 10233890 >
- Ando K, Nakamura Y, Chargui J, Matsuzawa H, Tsuji T, Kato S, Hotta T: Extensive generation of human cord blood CD34(+) stem cells from Lin(-)CD34(-) cells in a long-term in vitro system. Exp Hematol. 2000 Jun; 28(6):690-9. < PMID: 10880755 >

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- Felschow DM, McVeigh ML, Hoehn GT, Civin CI, Fackler MJ: The adapter protein CrkL associates with CD34. *Blood*. 2001 Jun 15; 97(12):3768-75. < PMID: 11389015 >
- Kato S, Ando K, Nakamura Y, Muguruma Y, Sato T, Yabe H, Yabe M, Hattori K, Yasuda Y, Hotta T: Absence of a CD34- hematopoietic precursor population in recipients of CD34+ stem cell transplantation. *Bone Marrow Transplant*. 2001 Sep; 28(6):587-95. < PMID: 11607772 >
- Suárez L, Vidriales MB, García-Laraña J, Sanz G, Moreno MJ, López A, Barrena S, Martínez R, Tormo M, Palomera L, Lavilla E, López-Berges MC, de Santiago M, de Equiza ME, Miguel JF, Orfao A: CD34+ cells from acute myeloid leukemia, myelodysplastic syndromes, and normal bone marrow display different apoptosis and drug resistance-associated phenotypes. *Clin Cancer Res*. 2004 Nov 15; 10(22):7599-606. < PMID: 15569991 >
- Ono F, Sharma BK, Smith CC, Burnett JW, Aurelian L: CD34+ cells in the peripheral blood transport herpes simplex virus DNA fragments to the skin of patients with erythema multiforme (HAEM).. *J Invest Dermatol*. 2005 Jun; 124(6):1215-24. < PMID: 15955097 >
- Ninos JM, Jefferies LC, Cogle CR, Kerr WG: The thrombopoietin receptor, c-Mpl, is a selective surface marker for human hematopoietic stem cells. *J Transl Med*. 2006 Feb 16; 4:9. < PMID: 16480521 >
- Iwasaki H, Kawamoto A, Ishikawa M, Oyamada A, Nakamori S, Nishimura H, Sadamoto K, Horii M, Matsumoto T, Murasawa S, Shibata T, Suehiro S, Asahara T: Dose-dependent contribution of CD34-positive cell transplantation to concurrent vasculogenesis and cardiomyogenesis for functional regenerative recovery after myocardial infarction. *Circulation*. 2006 Mar 14; 113(10):1311-25. < PMID: 16534028 >
- Goardon N, Nikolousis E, Sternberg A, Chu WK, Craddock C, Richardson P, Benson R, Drayson M, Standen G, Vyas P, Freeman S: Reduced CD38 expression on CD34+ cells as a diagnostic test in myelodysplastic syndromes. *Haematologica*. 2009 Aug; 94(8):1160-3. < PMID: 19644143 >
- Sanz E, Muñoz-A N, Monserrat J, Van-Den-Rym A, Escoll P, Ranz I, Alvarez-Mon M, de-la-Hera A: Ordering human CD34+CD10-CD19+ pre/pro-B-cell and CD19- common lymphoid progenitor stages in two pro-B-cell development pathways. *Proc Natl Acad Sci USA*. 2010 Mar 30; 107(13):5925-30. < PMID: 20231472 >

The Safety Data Sheet for this product is available at www.sysmex-partec.com/services.

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