

Anti-Human CD34 Antibody, Clone 581, FITC

Antibodies

Mouse monoclonal IgG1 antibody
against human CD34, FITC-conjugated

Catalog #60013FI
#60013FI.1 100 tests 5 µL/test
 25 tests 5 µL/test



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Product Description

The 581 antibody reacts with human CD34, an ~105 - 120 kDa type 1 transmembrane glycoprotein expressed on the surface of most human hematopoietic stem and progenitor cells (HSPCs) as well as on mesenchymal stem cells, embryonic fibroblasts, endothelial cells, neurons, and some tumor cell lines. CD34 is expressed only transiently during hematopoiesis, so the frequency of CD34+ cells is low in bone marrow or cord blood (~1 - 5%) and very low (~0.1 - 0.5%) in peripheral blood. CD34 is a marker used to identify and isolate HSPCs capable of cell engraftment. CD34 is thought to mediate attachment of stem cells to the bone marrow extracellular matrix or directly to stromal cells during early hematopoiesis, and to be involved in lymphocyte recruitment through binding to the ligands L- and E-selectin. Distinct epitope groups have been assigned to CD34 based on their sensitivity to enzymatic cleavage, with the 581 antibody recognizing a class III epitope (resistant to neuraminidase and O-glycoprotease).

Target Antigen Name: CD34

Alternative Names: Gp105-120, My10

Gene ID: 947

Species Reactivity: Human

Host Species: Mouse

Clonality: Monoclonal

Clone: 581

Isotype: IgG1, kappa

Immunogen: Human CD34+ leukemic cells

Conjugate: FITC

Applications

Verified: FC

Reported: FC

Special Applications: This antibody clone has been verified for purity assessments of cells isolated with EasySep™ kits, including EasySep™ Human CD34 Positive Selection Kit (Catalog #18056) and EasySep™ Human Whole Blood CD34 Positive Selection Kit (Catalog #18086), and for labeling human mesenchymal cells grown in MesenCult™ Proliferation Kit (Human; Catalog #05411).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; WB: Western blotting

Properties

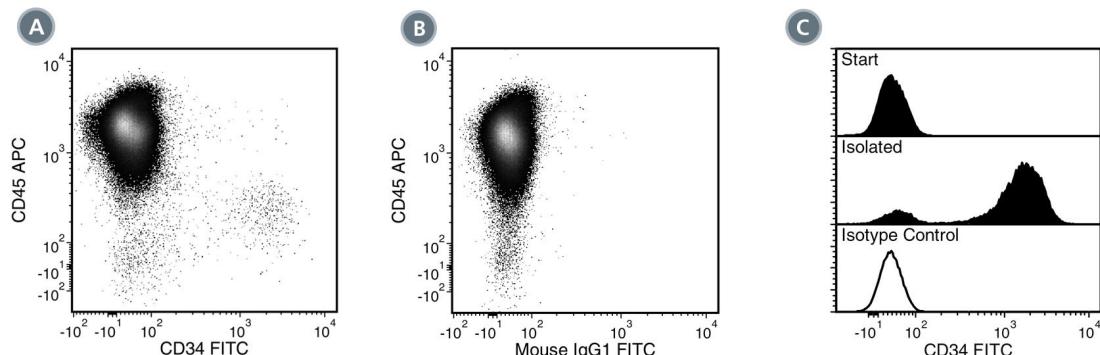
Formulation: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) bovine serum albumin

Purification: The antibody was purified by affinity chromatography and conjugated with FITC under optimal conditions. The solution is free of unconjugated FITC.

Stability and Storage: Product stable at 2 - 8°C when stored undiluted. Do not freeze. Protect product from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com.

Directions for Use: For flow cytometry the suggested use of this antibody is 5 µL per 1 x 10⁶ cells in 100 µL volume or per 100 µL of whole blood. It is recommended that the antibody be titrated for optimal performance for each application.

Data



(A) Flow cytometry analysis of human peripheral blood mononuclear cells (PBMCs) labeled with Anti-Human CD34 Antibody, Clone 581, FITC and Anti-Human CD45 Antibody, Clone HI30, APC (Catalog #60018AZ).

(B) Flow cytometry analysis of human PBMCs labeled with a mouse IgG1, kappa FITC isotype control antibody and Anti-Human CD45 Antibody, Clone HI30, APC.

(C) Flow cytometry analysis of human PBMCs processed with the EasySep™ Human CD34 Positive Selection Kit and labeled with Anti-Human CD34 Antibody, Clone 581, FITC. Histograms show labeling of PBMCs (Start) and isolated cells (Isolated). Labeling of start cells with a mouse IgG1, kappa FITC isotype control antibody is shown (open histogram).

Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

1. Civin CI, et al. Antigenic analysis of hematopoiesis. III. A hematopoietic progenitor cell surface antigen defined by a monoclonal antibody raised against KG-1a cells. *J Immunol* 133(1): 157-65, 1984
2. Strauss LC, et al. Antigenic analysis of hematopoiesis. V. Characterization of My-10 antigen expression by normal lymphohematopoietic progenitor cells. *Exp Hematol* 14(9): 878-86, 1986
3. Terstappen LW, et al. Sequential generations of hematopoietic colonies derived from single nonlineage-committed CD34+CD38- progenitor cells. *Blood* 77(6): 1218-27, 1991 (FC)
4. Andrews RG, et al. CD34+ marrow cells, devoid of T and B lymphocytes, reconstitute stable lymphopoiesis and myelopoiesis in lethally irradiated allogeneic baboons. *Blood* 80(7): 1693-701, 1992 (FC, IF)
5. Schlossman SF, et al. *Eds. Leukocyte Typing V: White Cell Differentiation Antigens*. Oxford University Press, New York, pp. 840-46, 1995
6. Rudin CE, et al. Concordant expression of class II and class III CD34 epitopes on haemopoietic cells in leukapheresis and cord blood samples with CD45/CD34 dual staining. *Br J Haematol* 97(2): 488-91, 1997 (FC)
7. Steen R, Egeland T. CD34 molecule epitope distribution on cells of haematopoietic origin. *Leuk Lymphoma* 30(1-2): 23-30, 1998
8. Yoshino N, et al. Upgrading of flow cytometric analysis for absolute counts, cytokines and other antigenic molecules of Cynomolgus monkeys (*Macaca fascicularis*) by using anti-human cross-reactive antibodies. *Exp Anim* 49(2): 97-110, 2000 (FC)
9. Joseph A. Expression of CD34 and L-selectin on human corneal keratocytes. *Invest Ophthalmol Vis Sci* 44(11): 4689-92, 2003 (IHC)
10. Maumus M, et al. Native human adipose stromal cells: localization, morphology and phenotype. *Int J Obes* 35(9): 1141-53, 2011 (FC, ICC, IHC)

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