Anti-Human CD90 Antibody, Clone 5E10, Biotin

Antibodies

Mouse monoclonal IgG1 antibody against human, rhesus, cynomolgus CD90 (Thy-1), biotin-conjugated

Catalog #60045BT

100 µg 0.5 mg/mL

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

The 5E10 antibody reacts with CD90 (Thy-1), a GPI-linked membrane glycoprotein that is N-glycosylated at two sites, giving rise to 25 - 37 kDa molecules. CD90 has roles in signal transduction, cell adhesion and migration, neurite outgrowth, T cell activation, tumor suppression, and inhibition of the proliferation and differentiation of hematopoietic stem cells. It is a known ligand of β2 and β3 integrins and upregulates synthesis of fibronectin, osteonectin, and thrombospondin. CD90 is broadly expressed, being found on human thymocytes, neurons, some glial cells, fibroblasts, activated endothelial cells, some leukemia cell lines, and a distinct subset (< 1%) of CD3+CD4+ T cells in human peripheral blood. CD90 is also expressed by small subsets of CD34+ cells in fetal liver, umbilical cord blood, bone marrow, and mobilized peripheral blood cells. CD90 is considered an important marker for hematopoietic stem and progenitor cells and, in combination with other markers such as CD34, is useful for identifying and isolating these cells by FACS.

Target Antigen Name:	CD90 (Thy-1)
Alternative Names:	CDw90, Thy-1, Thy1
Gene ID:	7070
Species Reactivity:	Human, Rhesus, Cynomolgus, Baboon, Pigtailed Macaque, Dog, Pig
Host Species:	Mouse (BALB/c)
Clonality:	Monoclonal
Clone:	5E10
Isotype:	IgG1, kappa
Immunogen:	Human HEL erythroleukemia cell line
Conjugate:	Biotin

Applications

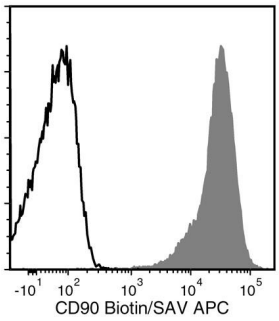
Verified:	FC
Reported:	ELISA, FC
Special Applications:	This antibody clone has been verified for labeling human mesenchymal cells grown in MesenCult™ Proliferation Kit (Human; Catalog #05411).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Purification:	The antibody was purified by affinity chromatography and conjugated with biotin under optimal conditions. The solution is free of unconjugated biotin.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. For product expiry date, please contact techsupport@stemcell.com.
Directions for Use:	For flow cytometry the suggested use of this antibody is ≤ 0.5 µg per 1 x 10^6 cells in 100 µL. It is recommended that the antibody be titrated for optimal performance for each application.

Data



Flow cytometry analysis of human erythroleukemia (HEL) cells labeled with Anti-Human CD90 Antibody, Clone 5E10, Biotin, followed by streptavidin (SAV) APC (filled histogram), or a biotinylated mouse IgG1, kappa isotype control antibody, followed by SAV APC (solid line 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. Schinke C et al. (2015) IL8-CXCR2 pathway inhibition as a therapeutic strategy against MDS and AML stem cells. Blood 125(20): 3144–52. (FACS)
2. Soler Palacios B et al. (2015) Macrophages from the synovium of active rheumatoid arthritis exhibit an activin A-dependent pro-inflammatory profile. J Pathol 235(3): 515–26. (IF, IHC)
3. Park S-J et al. (2014) Interaction of mesenchymal stem cells with fibroblast-like synoviocytes via cadherin-11 promotes angiogenesis by enhanced secretion of placental growth factor. J Immunol 192(7): 3003–10. (FC)
4. Touboul C et al. (2013) Mesenchymal stem cells enhance ovarian cancer cell infiltration through IL6 secretion in an amniochorionic membrane based 3D model. J Transl Med 11: 28. (FACS, IF)
5. Gundlach CW et al. (2011) Synthesis and evaluation of an anti-MLC1 x anti-CD90 bispecific antibody for targeting and retaining bone-marrow-derived multipotent stromal cells in infarcted myocardium. Bioconjug Chem 22(8): 1706–14. (ELISA, FA, FC, WB)
6. Donnenberg VS et al. (2010) Localization of CD44 and CD90 positive cells to the invasive front of breast tumors. Cytometry B Clin Cytom 78(5): 287–301. (IF, IHC)
7. Hung JT et al. (2005) Immunopathogenic role of TH1 cells in autoimmune diabetes: evidence from a T1 and T2 doubly transgenic non-obese diabetic mouse model. J Autoimmun 25(3):181–92. (IHC, FC)
8. Mason D et al. (Eds.). (2002) Leukocyte Typing VII: White cell differentiation antigens (pp. 836). Oxford, UK: Oxford University Press.
9. Murray LJ et al. (1996) CD34+Thy-1+Lin- stem cells from mobilized peripheral blood. Leuk Lymphoma 22(1-2): 37–42. (FC)
10. Holden JT et al. (1995) Characterization of Thy-1 (CDw90) expression in CD34+ acute leukemia. Blood 86(1): 60–5.
11. Mayani H & Lansdorp PM. (1994) Thy-1 expression is linked to functional properties of primitive hematopoietic progenitor cells from human umbilical cord blood. Blood 83(9): 2410–7. (FC)
12. Craig W et al. (1993) Expression of Thy-1 on human hematopoietic progenitor cells. J Exp Med 177(5): 1331–42. (FC, IP, WB)