

Anti-Human CD45 Antibody, Clone HI30

Antibodies

Mouse monoclonal IgG1 antibody
against human, chimpanzee CD45,
unconjugated

Catalog #60018

100 µg 0.5 mg/mL



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 HI30 antibody reacts with all isoforms of CD45, a type I transmembrane glycoprotein expressed on the surface of most hematopoietic cells except mature erythrocytes, platelets, and plasma cells; expression of CD45 is lost during differentiation of these cell types. CD45 is a member of the protein tyrosine phosphatase family and functions in a number of immunoregulatory processes, including cell activation, growth, differentiation, and oncogenic transformation. The large cytoplasmic portion of CD45 contains two tyrosine phosphatase domains (one of which is enzymatically active) that are involved in modulating the function of intracellular substrates such as the Src kinases Lck and Fyn. Several isoforms of CD45 have been identified, the expression of which differs according to cell type and functional status. Alternative splicing of three exons (4, 5, 6) encoding the extracellular RA, RB, and RC polypeptide sequences gives rise to up to 8 isoforms with molecular masses in the range of 180 - 240 kDa. The leukocyte common antigen (LCA), the region recognized by the HI30 antibody, is an extracellular region located proximal to the membrane and common to all isoforms of CD45.

Target Antigen Name:	CD45
Alternative Names:	B220, LCA, T200
Gene ID:	5788
Species Reactivity:	Human, Chimpanzee
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	HI30
Isotype:	IgG1, kappa
Immunogen:	Full-length human CD45 protein
Conjugate:	Unconjugated

Applications

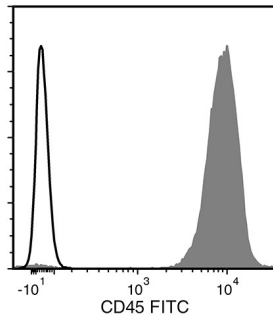
Verified:	CellSep, FC
Reported:	CyTOF®, FA, FC, ICC, IF, IHC, IP, WB
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ kits, including EasySep™ Human T Cell Enrichment Kit (Catalog #19051), EasySep™ Human CD4+ T Cell Enrichment Kit (Catalog #19052) and EasySep™ Human CD45 Depletion Kit (Catalog #18259; partial blocking may be observed).

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.
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 peripheral blood mononuclear cells (PBMCs) labeled with Anti-Human CD45 Antibody, Clone HI30, followed by Goat Anti-Mouse IgG (H+L) Antibody, Polyclonal, FITC (Catalog #60138FI) (filled histogram), or a mouse IgG1, kappa isotype control antibody, followed by Goat Anti-Mouse IgG (H+L) Antibody, Polyclonal, FITC (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. Canter RJ et al. (2014) Anti-proliferative but not anti-angiogenic tyrosine kinase inhibitors enrich for cancer stem cells in soft tissue sarcoma. *BMC Cancer* 14(1): 756. (FC)
2. Wang LX et al. (2014) Humanized-BLT mouse model of Kaposi's sarcoma-associated herpesvirus infection. *Proc Natl Acad Sci USA* 111(8): 3146–51. (FC)
3. Despeaux M et al. (2012) Focal adhesion kinase splice variants maintain primitive acute myeloid leukemia cells through altered Wnt signaling. *Stem Cells* 30(8): 1597–610. (FC)
4. Mian, F M et al. (2010) Humanized mice are susceptible to *Salmonella typhi* infection. *Cell Mol Immunol* 8(1): 83–7. (FC)
5. Jiang Q et al. (2008) FoxP3+CD4+ regulatory T cells play an important role in acute HIV-1 infection in humanized Rag2⁻/gammaC⁻ mice in vivo. *Blood* 112(7): 2858–68. (FC)
6. Nagano M et al. (2007) Identification of functional endothelial progenitor cells suitable for the treatment of ischemic tissue using human umbilical cord blood. *Blood* 110(1): 151–60. (FC)
7. Ninomiya M et al. (2007) Homing, proliferation and survival sites of human leukemia cells in vivo in immunodeficient mice. *Leukemia* 21(1): 136–42. (FC, IF, IHC)
8. Bouma-ter Steege JCA et al. (2004) Angiogenic profile of breast carcinoma determines leukocyte infiltration. *Clin Cancer Res* 10(21): 7171–8. (FC, IHC)
9. Yamada T et al. (2002) CD45 controls interleukin-4-mediated IgE class switch recombination in human B cells through its function as a Janus kinase phosphatase. *J Biol Chem* 277(32): 28830–5. (FA/Inhibition)
10. Esser MT et al. (2001) Differential incorporation of CD45, CD80 (B7-1), CD86 (B7-2), and major histocompatibility complex class I and II molecules into human immunodeficiency virus type 1 virions and microvesicles: implications for viral pathogenesis and immune regulation. *J Virol* 75(13): 6173–82. (FC, WB)
11. Yoshino N et al. (2000) 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. (FC)
12. Kishihara K et al. (1993) Normal B lymphocyte development but impaired T cell maturation in CD45-exon6 protein tyrosine phosphatase-deficient mice. *Cell* 74(1): 143–56. (FC, IP)
13. Knapp W et al. (Eds.). (1989) *Leucocyte Typing IV: White cell differentiation antigens*. New York: Oxford University Press.

STEMCELL TECHNOLOGIES INC.'S QUALITY MANAGEMENT SYSTEM IS CERTIFIED TO ISO 13485. PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2018 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, Scientists Helping Scientists, and EasySep are trademarks of STEMCELL Technologies Canada Inc. CyTOF is a registered trademark of Fluidigm Corporation. All other trademarks are the property of their respective holders. Alexa Fluor and Pacific Blue are trademarks of Life Technologies Corporation. Antibodies conjugated to Alexa Fluor® or Pacific Blue™ are licensed for internal research use only and sale is expressly conditioned on the buyer not using the antibody for manufacturing, performing a service or medical test, or otherwise generating revenue. For use other than research, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@lifetech.com. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.