Antibodies

Anti-Human CD71 (Transferrin Receptor) Antibody, Clone OKT9, Biotin

Mouse monoclonal IgG1 antibody against human CD71 (transferrin receptor), biotin-conjugated

Catalog #60106BT

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 OKT9 antibody reacts with CD71 (transferrin receptor), an ~180 - 190 kDa disulfide-bonded homodimer and type 2 transmembrane glycoprotein expressed at high levels on a broad range of actively proliferating cells, as well as reticulocytes, monocytes, macrophages, and marrow stromal cells. Surface levels are low on resting leukocytes but are upregulated on lymphocytes, monocytes, and macrophages following antigen or mitogen stimulation. Expression is lost during differentiation of reticulocytes into mature erythrocytes. CD71 plays an essential role in cellular growth, mediating uptake of transferrin–iron complexes through receptor-mediated endocytosis, and recycling of the apotransferrin–receptor complex to the cell surface. Two molecules of iron-loaded transferrin are bound by the receptor, the expression of which is regulated by the metabolic demand for iron. CD71 has been employed as a marker for evaluating erythroid precursors within the bone marrow and for assessing disorders such as erythroid leukemia and myelodysplastic syndrome. It has also served as a target for drug delivery. The OKT9 antibody binds an epitope that reportedly overlaps with that of antibody clone CY1G4 but is distinct from the ligand binding site for transferrin.

Target Antigen Name:	CD71 (Transferrin Receptor)
Alternative Names:	Mtvr1, p90, T9, TFR, TFRC, TFR1, TR, Transferrin receptor, TRFR
Gene ID:	7037
Species Reactivity:	Human
Host Species:	Mouse (CAF1)
Clonality:	Monoclonal
Clone:	OKT9
Isotype:	IgG1, kappa
Immunogen:	Human acute lymphoblastic leukemia cells
Conjugate:	Biotin

Applications

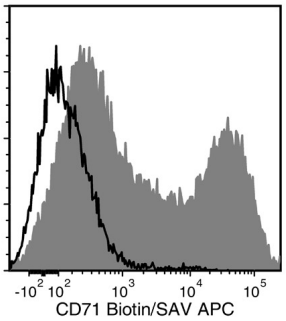
Verified:	FC, CellSep
Reported:	FC
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ kits, including EasySep™ Direct Human T Cell Isolation Kit (Catalog #19661), EasySep™ Human CD3 Positive Selection Kit II (Catalog #17851), as well as peripheral blood erythroid precursor cells cultured with StemSpan™ SFEM II (Catalog #09605) and StemSpan™ Erythroid Expansion Supplement (100X; Catalog #02692).

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 saline, pH 7.2, containing 0.09% sodium azide and 0.1% gelatin
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, contact techsupport@stemcell.com.
Directions for Use:	For flow cytometry, the suggested use of this antibody is ≤ 0.125 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 CD3+ cells (T cells) isolated from human peripheral blood mononuclear cells (PBMCs), then stimulated by incubation with anti-CD3 and anti-CD28 antibodies. Cells were labeled with Anti-Human CD71 (Transferrin Receptor) Antibody, Clone OKT9, Biotin, followed by streptavidin (SAV) APC (filled histogram), or Mouse IgG1, kappa Isotype Control Antibody, Clone MOPC-21, Biotin (Catalog #60070BT), 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, visit www.stemcell.com/antibodies, or contact us at techsupport@stemcell.com.

References

1. Wang J et al. (2010) The complex role of multivalency in nanoparticles targeting the transferrin receptor for cancer therapies. J Am Chem Soc 132(32): 11306–13. (Targeting nanoparticle to cells)
2. Kuehne J & Murphy RM. (2001) Synthesis and characterization of membrane-active GALA-OKT9 conjugates. Bioconjug Chem 12(5): 742–9. (FA/Immunotoxin, FC)
3. Wenning LA & Murphy RM. (1999) Coupled cellular trafficking and diffusional limitations in delivery of immunotoxins to multicell tumor spheroids. Biotechnol Bioeng 62(5): 562–75. (FA/Immunotoxin, FC)
4. Terng HJ et al. (1998) Human transferrin receptor is active and plasma membrane-targeted in yeast. FEMS Microbiol Lett 160(1): 61–7. (IF, Immunoelectron microscopy, WB)
5. Franco A et al. (1992) Transferrin receptor mediates uptake and presentation of hepatitis B envelope antigen by T lymphocytes. J Exp Med 175(5): 1195–205. (FA)
6. Salcedo TW & Fleit HB. (1991) Plasma membrane and intracellular pools of transferrin receptors decline during in vitro cultivation of U937 cells. Cell Prolif 24(4): 383–401. (FA, FC, ICC, IF, IP)
7. Takahashi S et al. (1991) An epitope on the transferrin receptor preferentially exposed during tumor progression in human lymphoma is close to the ligand binding site. Blood 77(4): 826–32. (FA, FC, IP)
8. Pileri S et al. (1987) Immunohistochemical determination of growth fractions in human permanent cell lines and lymphoid tumours: a critical comparison of the monoclonal antibodies OKT9 and Ki-67. Br J Haematol 65(3): 271–6. (ICC, IF, IHC)
9. Turbitt ML & Mackie RM. (1986) An assessment of the diagnostic value of the monoclonal antibodies Leu 8, OKT9, OKT10 and Ki67 in cutaneous lymphocytic infiltrates. Br J Dermatol 115(2): 151–8. (IHC)
10. Weissman AM et al. (1986) Exposure of K562 cells to anti-receptor monoclonal antibody OKT9 results in rapid redistribution and enhanced degradation of the transferrin receptor. J Cell Biol 102(3): 951–8. (FA)
11. Schneider C et al. (1982) Structural features of the cell surface receptor for transferrin that is recognized by the monoclonal antibody OKT9. J Biol Chem 257(14): 8516–22. (IP)
12. Sutherland R et al. (1981) Ubiquitous cell-surface glycoprotein on tumor cells is proliferation-associated receptor for transferrin. Proc Natl Acad Sci USA 78(7): 4515–9. (FC, IP)