

Anti-Human CD3 Antibody, Clone OKT3, APC



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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

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Antibodies

Mouse monoclonal IgG2a antibody
against human CD3, APC-conjugated

Catalog #100-0288
Catalog #100-0289

25 tests 5 µL/test
100 tests 5 µL/test

Product Description

The OKT3 antibody reacts with an extracellular conformational epitope on the ~20 kDa CD3 ϵ subunit of the human T cell receptor (TCR)/CD3 complex, which is expressed on the surface of ~95% of mature T cells and NKT cells, and variably on thymocytes. A majority of T cell neoplasms also express CD3. CD3 is a dimer assembled from combinations of CD3 γ , δ , ϵ , η , and ζ subunits, which are structurally related type 1 transmembrane proteins and members of the immunoglobulin superfamily. CD3 associates non-covalently with the TCR and is involved in transducing antigen recognition signals into the cytoplasm of T cells and in regulating T cell activation and the expression of the TCR on the cell surface. Mutations in CD3 have been associated with disorders of the immune system, including severe combined immunodeficiency (SCID). The OKT3 antibody recognizes an epitope that is expressed when the CD3 ϵ subunit associates with either CD3 γ or CD3 δ , and binding of the antibody can induce T cell activation. Because of its immunosuppressive properties in vivo, the OKT3 antibody has proven useful in treating allograft rejection. Clone OKT3 is widely used for phenotyping human T cells, and it has been observed to block the binding of anti-CD3 antibody clones SK7 and UCHT1.

Target Antigen Name:	CD3
Alternative Names:	CD3 epsilon, CD3 ϵ , Leu-4, T3
Gene ID:	916
Species Reactivity:	Human
Host Species:	Mouse (CAF1)
Clonality:	Monoclonal
Clone:	OKT3
Isotype:	IgG2a, kappa
Immunogen:	Sheep erythrocyte rosette-purified human T cells
Conjugate:	APC (Allophycocyanin)

Applications

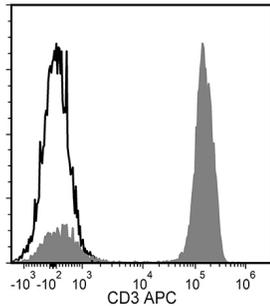
Verified:	FC
Reported:	FC

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, 0.1% gelatin, and < 0.2% (w/v) bovine serum albumin
Purification:	The antibody was purified by affinity chromatography and conjugated with APC under optimal conditions. The solution is free of unconjugated APC.
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 reagent is $\leq 5 \mu\text{L}$ per 1×10^6 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 CD3 Antibody, Clone OKT3, APC (filled histogram) or a mouse IgG2a, kappa APC isotype control antibody (solid line histogram). Viable lymphocytes were gated for analysis.

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

- Peng Z et al. (2017) Expression and role of interleukin-9 in Vogt-Koyanagi-Harada disease. *Mol Vis* 23: 538–47. (FA)
- Guo XZ et al. (2016) Rapid cloning, expression, and functional characterization of paired $\alpha\beta$ and $\gamma\delta$ T-cell receptor chains from single-cell analysis. *Mol Ther Methods Clin Dev* 2016 3: 15054. (FACS, FC)
- Vadstrup K. et al (2016) Validation and optimization of an ex vivo assay of intestinal mucosal biopsies in Crohn's disease: Reflects inflammation and drug effects. *PLoS One* 11(5): e0155335. (IHC)
- Betzer O et al. (2015) In-vitro optimization of nanoparticle-cell labeling protocols for in-vivo cell tracking applications. *Sci Rep* 5(1): 15400. (FA)
- Green MR et al. (2015) Mutations in early follicular lymphoma progenitors are associated with suppressed antigen presentation. *Proc Natl Acad Sci* 112(10): E1116–25. (FA)
- Yoon KW et al. (2015) Control of signaling-mediated clearance of apoptotic cells by the tumor suppressor p53. *Science* 349(6247): 1261669. (FA)
- Guo YE et al. (2014) Alternative capture of noncoding RNAs or protein-coding genes by herpesviruses to alter host T cell function. *Mol Cell* 54(1): 67–79. (FA, WB)
- Zhao BB. (2013) T lymphocytes from chronic HCV-infected patients are primed for activation-induced apoptosis and express unique pro-apoptotic gene signature. *PLoS One* 8(10): e77008 1–13. (FC)
- Chikamoto H et al. (2012) Immunohistological study of a pediatric patient with plasma cell-rich acute rejection. *Clin Transplant* 26: 54–7. (Immunotherapy)
- Kjer-Nielsen L et al. (2004) Crystal structure of the human T cell receptor CD3 $\epsilon\gamma$ heterodimer complexed to the therapeutic mAb OKT3. *Proc Natl Acad Sci USA* 101(20): 7675–80. (X-ray crystallography)
- Carpenter PA et al. (2000) Non-Fc receptor-binding humanized anti-CD3 antibodies induce apoptosis of activated human T cells. *J Immunol* 165(11): 6205–13. (FA, RIA)
- Salmerón A et al. (1991) A conformational epitope expressed upon association of CD3-epsilon with either CD3-delta or CD3-gamma is the main target for recognition by anti-CD3 monoclonal antibodies. *J Immunol* 147(9): 3047–52. (Epitope-mapping)
- Kung P et al. (1979) Monoclonal antibodies defining distinctive human T cell surface antigens. *Science* 206(4416): 347–9. (FC)

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