

Datasheet: MCA6146F

BATCH NUMBER 174288

Description:	MOUSE ANTI HUMAN CD3:FITC
Specificity:	CD3
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	OKT3
Isotype:	IgG2a
Quantity:	100 TESTS/0.5ml

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/33

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

Target Species	Human		
Product Form	Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	FITC	490	525
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative Stabilisers	0.09% Sodium Azide (NaN ₃)		
Approx. Protein Concentrations	IgG concentration 0.2 mg/ml		

Immunogen	Human peripheral blood lymphocytes
External Database Links	UniProt: P07766 Related reagents Entrez Gene: 916 CD3E Related reagents
Synonyms	T3E
Specificity	Mouse anti Human CD3 antibody, clone OKT3, recognizes T-cell surface glycoprotein CD3 epsilon chain (CD3ε), also known as T-cell surface antigen T3/Leu-4 epsilon. CD3ε is a subunit within the multiprotein cell surface receptor TCR-CD3 complex, which is expressed on the surface of mature T cells, NKT cells and thymocytes (Mariuzza et al. 2020). The CD3 complex is required for intracellular signaling and for TCR surface expression. Recruitment of the TCR/CD3 complex initiates early events leading to proliferation and differentiation of mature T cells into an effector cell (Guy & Vignali 2009). Mice that lack the CD3ε gene exhibit early arrest in T cell development and mutation of the gene in humans has been seen to result in severe combined immunodeficiency (SCID) (DeJarnette et al. 1998, de Saint Basile et al. 2004). Mouse anti Human CD3, clone OKT3 is commonly used in flow cytometry in the phenotyping human T cells. Characterization of the OKT3 clone has shown that it is able to compete and block the binding of the CD3 clones SK7 and UCHT1 to human T cells (Li et al. 2005). The OKT3 clone has also been found to have immunosuppressive properties in vivo. As result of this, the clone was humanized to be used as a therapeutic drug called Muromonomab (Orthoclone). Muromonomab was used as an immunosuppressive including for after solid organ transplants, to prevent the activation of CD4- and CD8- T cells (Wilde & Goa 1996). However, the drug has since been discontinued due to the development of other treatments with similar efficacy and fewer side effects (Reichert 2012).
Purity	>90 % by SDS PAGE
Flow Cytometry	Use 5 ul of the suggested working dilution to label 1x10 ⁶ cells in 100ul
Storage	This product is shipped at ambient temperature. Store at +4°C. DO NOT FREEZE. This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use.
Guarantee	Guaranteed until date of expiry. Please see product label.
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA6146F

Related Products

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:FITC \(MCA929F\)](#)

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

'M441184:250523'

Printed on 10 Jul 2026

© 2026 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)