

Datasheet: MCA6146PE

BATCH NUMBER 157923

Description:	MOUSE ANTI HUMAN CD3:RPE
Specificity:	CD3
Format:	RPE
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	▪			Neat

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 R. Phycoerythrin (RPE) - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE 488nm laser	496	578
	RPE 561nm laser	546	578
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 0.1 mg/ml		

Immunogen	Human peripheral blood lymphocytes
External Database Links	<p>UniProt: P07766 Related reagents</p> <p>Entrez Gene: 916 CD3E Related reagents</p>
Synonyms	T3E
Specificity	<p>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).</p> <p>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).</p> <p>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).</p>
Purity	>90 % by SDS PAGE
Flow Cytometry	Use 5 ul of the suggested working dilution to label 1x10 ⁶ cells in 100ul
Storage	<p>Store at +4°C. DO NOT FREEZE.</p> <p>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.</p>
Guarantee	Guaranteed until date of expiry. Please see product label.
Health And Safety Information	<p>Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA6146PE 10040</p>

Related Products

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:RPE \(MCA929PE\)](#)

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Worldwide

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

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