

## Datasheet: MCA6146PE

**BATCH NUMBER 164544**

<b>Description:</b>	MOUSE ANTI HUMAN CD3:RPE
<b>Specificity:</b>	CD3
<b>Format:</b>	RPE
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	OKT3
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	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](http://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.

<b>Target Species</b>	Human		
<b>Product Form</b>	Purified IgG conjugated to R. Phycoerythrin (RPE) - liquid		
<b>Max Ex/Em</b>	<b>Fluorophore</b>	<b>Excitation Max (nm)</b>	<b>Emission Max (nm)</b>
	RPE 488nm laser	496	578
	RPE 561nm laser	546	578
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
<b>Buffer Solution</b>	Phosphate buffered saline		
<b>Preservative Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )		
<b>Approx. Protein Concentrations</b>	IgG concentration 0.1 mg/ml		

<b>Immunogen</b>	Human peripheral blood lymphocytes
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P07766</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">916</a>    CD3E    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	T3E
<b>Specificity</b>	<p><b>Mouse anti Human CD3 antibody, clone OKT3</b>, 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 (<a href="#">Mariuzza et al. 2020</a>). 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 (<a href="#">Guy &amp; Vignali 2009</a>).</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) (<a href="#">DeJarnette et al. 1998</a>, <a href="#">de Saint Basile et al. 2004</a>).</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 (<a href="#">Li et al. 2005</a>). 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 (<a href="#">Wilde &amp; Goa 1996</a>). However, the drug has since been discontinued due to the development of other treatments with similar efficacy and fewer side effects (<a href="#">Reichert 2012</a>).</p>
<b>Purity</b>	>90 % by SDS PAGE
<b>Flow Cytometry</b>	Use 5 ul of the suggested working dilution to label 1x10 <sup>6</sup> cells in 100ul
<b>Storage</b>	<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>
<b>Guarantee</b>	Guaranteed until date of expiry. Please see product label.
<b>Health And Safety Information</b>	<p>Material Safety Datasheet documentation #10040 available at:  <a href="https://www.bio-rad-antibodies.com/SDS/MCA6146PE">https://www.bio-rad-antibodies.com/SDS/MCA6146PE</a>  10040</p>

## Related Products

### Recommended Negative Controls

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

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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](https://bio-rad-antibodies.com/datasheets)  
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