

Datasheet: MCA6146PE

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|----------------------|--------------------------|
| 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 | ▪ | | | 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 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 | <0.1% Sodium Azide (NaN ₃) | | |
| Approx. Protein Concentrations | IgG concentration 0.1 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 1x10⁶ cells in 100ul

Storage

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/MCA6146PE>
10040

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
'M431330:240711'

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