

Datasheet: MCA6146A647

BATCH NUMBER 162999

Description:	MOUSE ANTI HUMAN CD3:Alexa Fluor® 647
Specificity:	CD3
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	OKT3
Isotype:	IgG2a
Quantity:	100 TESTS/1ml

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 Alexa Fluor® 647 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Alexa Fluor®647	650	665
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide (NaN ₃)		
Stabilisers	1% Bovine Serum Albumin		
Approx. Protein Concentrations	IgG concentration 0.05 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 10ul of the suggested working dilution to label 1x10⁶ cells in 100ul

Storage

This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.

Guarantee

12 months from date of despatch.

Acknowledgements

This product is provided under an intellectual property licence from Life Technologies

Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com

Health And Safety Information Material Safety Datasheet documentation #10041 available at:
<https://www.bio-rad-antibodies.com/SDS/MCA6146A647>
10041

Regulatory For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA929A647\)](#)

North & South America Tel: +1 800 265 7376
Fax: +1 919 878 3751

Email: antibody_sales_us@bio-rad.com

Worldwide Tel: +44 (0)1865 852 700
Fax: +44 (0)1865 852 739

Email: antibody_sales_uk@bio-rad.com

Europe Tel: +49 (0) 89 8090 95 21
Fax: +49 (0) 89 8090 95 50

Email: antibody_sales_de@bio-rad.com

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M419171:230602'

Printed on 18 Jul 2024

© 2024 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)