Datasheet: MCA6146SBUV445

BATCH NUMBER 64626891

Description:	MOUSE ANTI HUMAN CD3:StarBright UltraViolet 445
Specificity:	CD3
Format:	StarBright UltraViolet 445
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 StarBright UltraViolet 445 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
StarBright UltraViolet 445	347	440

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)
1% Bovine Serum Albumin
0.1% Pluronic F68
0.1% PEG 3350

	0.05% Tween 20
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).
Flow Cytometry	Use 5µl of the suggested working dilution to label 10^6 cells in 100µl. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.
Storage	Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
Guarantee	12 months from date of despatch
Acknowledgements	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
Health And Safety	Material Safety Datasheet documentation #20471 available at:

Information	https://www.bio-rad-antibodies.com/SDS/MCA6146SBUV445
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A)
HUMAN SEROBLOCK (BUF070B)

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
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Printed on 28 May 2026