Datasheet: MCA463A647T

Description:	MOUSE ANTI HUMAN CD3:Alexa Fluor® 647
Specificity:	CD3
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	UCHT1
Isotype:	IgG1
Quantity:	25 TESTS/0.25ml

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 - 1/2

Where this antibody 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 antibody for use in their own system using appropriate negative/positive controls.

Target Species

Human

Species Cross Reactivity

Reacts with: Chimpanzee

N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

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 A from tissue culture supernatant

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers	0.09% Sodium Azide 1% Bovine Serum Albumin
Approx. Protein Concentrations	IgG concentration 0.05 mg/ml
Immunogen	Human infant thymocytes and lymphocytes from a patient with Sezary Syndrome.
External Database Links	**UniProt:** P07766 Related reagents **Entrez Gene:** 916 CD3E Related reagents
Synonyms	T3E
RRID	AB_1101804
Fusion Partners	Spleen cells from immunized BALB/c mice were fused with cells of the P3/NS1/1-Ag4-1 mouse myeloma cell line.
Specificity	**Mouse anti Human CD3 antibody, clone UCHT1** recognizes the human T-cell surface glycoprotein CD3 epsilon chain, also known as T-cell surface antigen T3/Leu-4 epsilon chain or CD3ε. CD3ε is a 207 amino acid, ~21kDa single pass type 1 transmembrane protein containing a single Ig-like and a single ITAM domain. Mouse anti Human CD3 antibody, clone UCHT1 was originally described as only binding to CD3ε when complexed with either the CD3δ or CD3γ subunits, as indicated by co-transfection immunofluorescence on COS cells (Salmerón *et al.* 1991). Mouse anti Human CD3 antibody, clone UCHT1 binds to a region in the ectodomain of human CD3ε and binds to a discontinuous epitope near an acidic region of CD3ε opposite the dimer interface; as shown by crystallography of the CD3ε/δ dimer complexed with a single chain UCHT1 antibody fragment (Arnett *et al.* 2004). CD3 is expressed by all T lymphocytes and is seen in all lymphoid organs including lymph nodes and spleen. It is involved in thymocyte differentiation (Brodeur *et al.* 2009). Deficiency of the CD3ε chain contributes to blocking T-cell development and presentation of a severe combined immunodeficiency phenotype (Fischer *et al.* 2005). Mouse anti Human CD3 antibody, clone UCHT1 has been used successfully for the activation of human peripheral blood lymphocytes by cross linking and subsequently for CD3ε surface expression by flow cytometry (Hirsh and Cohen 2006).
Flow Cytometry	Use 10ul of the suggested working dilution to label 10^6 cells or 100ul whole blood.
References	1. Beverley, P.C. & Callard, R.E. (1981) Distinctive functional characteristics of human "T" lymphocytes defined by E rosetting or a monoclonal anti-T cell antibody. Eur J Immunol. 11 (4): 329-34.

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Further Reading

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2. Arnett, K.L. *et al.* (2004) Crystal structure of a human CD3-epsilon/delta dimer in complex with a UCHT1 single-chain antibody fragment. Proc Natl Acad Sci U S A. 101: 16268-73.

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. This product is photosensitive and should be protected from light.

Guarantee

12 months from date of despatch

Acknowledgements

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Health And Safety Information

Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA463A647T

	10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 (MCA928A647)

Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A)
HUMAN SEROBLOCK (BUF070B)

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