

## Datasheet: MCA463C

<b>Description:</b>	MOUSE ANTI HUMAN CD3:RPE-Cy5
<b>Specificity:</b>	CD3
<b>Format:</b>	RPE-CY5
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	UCHT1
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat

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 RPE-Cy5 - liquid

Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE-Cy5 488nm laser	496	667

### Buffer Solution

Phosphate buffered saline

### Preservative Stabilisers

0.1% Sodium Azide (NaN<sub>3</sub>)  
Stabilizing agent

<b>Immunogen</b>	Human infant thymocytes and lymphocytes from a patient with Sezary Syndrome.
<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>RRID</b>	AB_1101796
<b>Fusion Partners</b>	Spleen cells from immunised BALB/c mice were fused with cells of the P3/NS1/1-Ag4-1 mouse myeloma cell line.
<b>Specificity</b>	<p><b>Mouse anti Human CD3 antibody, clone UCHT1</b> 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 <a href="#">Ig-like</a> and a single <a href="#">ITAM</a> 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 studies on COS cells (<a href="#">Salmerón et al. 1991</a>). Mouse anti Human CD3 antibody, clone UCHT1 binds to a region in the ectodomain of human CD3ε and has been shown to bind to a <a href="#">discontinuous epitope</a> near an acidic region of CD3ε opposite the dimer interface; as shown by crystallographic studies of the CD3ε/δ dimer complexed with a single chain UCHT1 antibody fragment (<a href="#">Arnett et al. 2004</a>).</p> <p>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 (<a href="#">Brodeur et al. 2009</a>). Deficiency of the CD3ε chain contributes to blocking T-cell development and presentation of a severe combined immunodeficiency phenotype (<a href="#">Fischer et al. 2005</a>).</p> <p>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 (<a href="#">Hirsh and Cohen 2006</a>).</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells or cells or 100ul whole blood
<b>References</b>	<ol style="list-style-type: none"> <li>1. Beverley, P.C. &amp; Callard, R.E. (1981) Distinctive functional characteristics of human "T" lymphocytes defined by E rosetting or a monoclonal anti-T cell antibody. <a href="#">Eur J Immunol. 11 (4): 329-34.</a></li> <li>2. Kung, P. et al. (1979) Monoclonal antibodies defining distinctive human T cell surface antigens. <a href="#">Science. 206: 347-9.</a></li> <li>3. Clevers, H. et al. (1988) The transmembrane orientation of the epsilon chain of the TcR/CD3 complex. <a href="#">Eur J Immunol. 18 (5): 705-10.</a></li> <li>4. Salmerón, A. et al. (1991) A conformational epitope expressed upon association of CD3-epsilon with either CD3-delta or CD3-gamma is the main target for recognition by</li> </ol>

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<b>Further Reading</b>	<ol style="list-style-type: none"> <li>1. Clevers, H. <i>et al.</i> (1988) The T cell receptor/CD3 complex: a dynamic protein ensemble. <a href="#">Annu Rev Immunol. 6: 629-62.</a></li> <li>2. Arnett, K.L. <i>et al.</i> (2004) Crystal structure of a human CD3-epsilon/delta dimer in complex with a UCHT1 single-chain antibody fragment. <a href="#">Proc Natl Acad Sci U S A. 101: 16268-73.</a></li> </ol>
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<b>Storage</b>	Store at +4°C. DO NOT FREEZE. This product should be stored undiluted. Storage in frost free freezers is not recommended. This product is photosensitive and should be protected from light. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
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<b>Guarantee</b>	Guaranteed until date of expiry. Please see product label.
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10331 available at: 10331: <a href="https://www.bio-rad-antibodies.com/uploads/MSDS/10331.pdf">https://www.bio-rad-antibodies.com/uploads/MSDS/10331.pdf</a>
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<b>Regulatory</b>	For research purposes only
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## Related Products

### Recommended Useful Reagents

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[HUMAN SEROBLOCK \(BUF070B\)](#)

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**America** Fax: +1 919 878 3751

Email: [antibody\\_sales\\_us@bio-rad.com](mailto:antibody_sales_us@bio-rad.com)

**Worldwide**

Tel: +44 (0)1865 852 700

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**Printed on 24 Mar 2021**

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