

## Datasheet: MCA463SBB580

**BATCH NUMBER 100007044**

<b>Description:</b>	MOUSE ANTI HUMAN CD3:StarBright Blue 580
<b>Specificity:</b>	CD3
<b>Format:</b>	StarBright Blue 580
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	UCHT1
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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](http://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

#### 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 StarBright Blue 580 - liquid

#### Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
StarBright Blue 580	475	582

#### Preparation

Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

#### Buffer Solution

Phosphate buffered saline

<b>Preservative</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Stabilisers</b>	1% Bovine Serum Albumin 0.1% Pluronic F68 0.1% PEG 3350 0.05% Tween 20
<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>Fusion Partners</b>	Spleen cells from immunized 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 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 binds to a <a href="#">discontinuous epitope</a> 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 (<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 5ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.
<b>References</b>	<ol style="list-style-type: none"> <li>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>Clevers, H. et al. (1988) The transmembrane orientation of the epsilon chain of the</li> </ol>

- TcR/CD3 complex. [Eur J Immunol. 18 \(5\): 705-10.](#)
3. 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 anti-CD3 monoclonal antibodies. [J Immunol. 147: 3047-52.](#)
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<b>Further Reading</b>	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> 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>
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<b>Storage</b>	Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
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<b>Guarantee</b>	12 months from date of despatch
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<b>Acknowledgements</b>	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #20471 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA463SBB580">https://www.bio-rad-antibodies.com/SDS/MCA463SBB580</a> 20471
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<b>Regulatory</b>	For research purposes only
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## Related Products

### Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)

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

**North & South** Tel: +1 800 265 7376

**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

Fax: +44 (0)1865 852 739

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

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