

Datasheet: MCA2184

**BATCH NUMBER 153714**

<b>Description:</b>	MOUSE ANTI HUMAN CD3
<b>Specificity:</b>	CD3
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	MEM-57
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	0.2 mg

## 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	▪			1/5 - 1/2
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	

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 - liquid

### Preparation

Purified IgG prepared by affinity chromatography on Protein A.

<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Approx. Protein Concentrations</b>	IgG concentration 1 mg/ml
<b>External Database Links</b>	<p><b>UniProt:</b></p> <p><a href="#">P04234</a>    <a href="#">Related reagents</a></p> <p><a href="#">P07766</a>    <a href="#">Related reagents</a></p> <p><a href="#">P09693</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b></p> <p><a href="#">915</a> CD3D    <a href="#">Related reagents</a></p> <p><a href="#">916</a> CD3E    <a href="#">Related reagents</a></p> <p><a href="#">917</a> CD3G    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	T3D, T3E, T3G
<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 (MEM-57)</b> is a monoclonal antibody recognizing an extracellular epitope of the human CD3 complex containing either δ-ε or γ-ε subunit complexes (<a href="#">Dave et al. 1997</a>). Mouse anti Human CD3 (MEM-57) recognizes a conformational CD3 epitope minimally requiring the presence of the CD3ε subunit extracellular domain (<a href="#">Transy et al. 1989</a>) as it will recognize murine 3D054.8 hybridoma cells transfected with cDNA to express the human CDε subunit lacking its cytoplasmic domain. CD3 serves as a pan T cell marker, it is expressed on the surface of over 95% of circulating human peripheral T cells. CD3 is also present on ~60-80% of thymocytes and on Purkinji cells, neurons present in the cerebellar cortex. CD3 is not expressed on B cells or NK cells.</p> <p>The TCR complex consists of TCR heterodimers, either α/β or γ/δ expressed in a mutually exclusive manner, analagous that seen in <a href="#">mice</a> on different T cell lineages. In order for the TCR heterodimer to be expressed on the cell surface it must associate with a minimal CD3 complex. The CD3 complex itself is made up of four subunits, γ, δ, ε and ζ responsible for effective signalling upon TCR activation, via a single or multiple, depending on the subunit, immunoreceptor tyrosine-based activation motif (ITAM) present in the CD3 subunit cytoplasmic domain (<a href="#">Kuhns et al. 2006</a>, <a href="#">Dave et al. 1997a</a>, <a href="#">Dave et al. 1997b</a>).</p> <p>Mouse anti Human CD3 clone MEM-57 demonstrates a mitogenic effect on peripheral blood T cells and on the lymphoblastoid Jurkat cell line (<a href="#">Batista et al. 2004</a> <a href="#">Brdicková et al. 2003</a>). Clone MEM-57 immunoprecipitates proteins of ~22 kDa and more weakly ~28 kDa. from peripheral blood T cell lysates.</p>

<b>Purity</b>	>95% by SDS-PAGE
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul or 100ul whole blood.
<b>References</b>	<ol style="list-style-type: none"> <li>Horejsí, V. <i>et al.</i> (1988) Monoclonal antibodies against human leucocyte antigens. II. Antibodies against CD45 (T200), CD3 (T3), CD43, CD10 (CALLA), transferrin receptor (T9), a novel broadly expressed 18-kDa antigen (MEM-43) and a novel antigen of restricted expression (MEM-74). <a href="#">Folia Biol (Praha). 34 (1): 23-34.</a></li> <li>Dave, V.P. <i>et al.</i> (1998) Altered functional responsiveness of thymocyte subsets from CD3delta-deficient mice to TCR-CD3 engagement. <a href="#">Int Immunol. 10: 1481-90.</a></li> <li>Transy, C. <i>et al.</i> (1989) Most anti-human CD3 monoclonal antibodies are directed to the CD3 epsilon subunit. <a href="#">Eur J Immunol. 19: 947-50.</a></li> <li>Amlot, P.L. <i>et al.</i> (1996) Activation antigen expression on human T cells. I. Analysis by two-colour flow cytometry of umbilical cord blood, adult blood and lymphoid tissue. <a href="#">Clin Exp Immunol. 105: 176-82.</a></li> <li>Gunnlaugsdottir, B. <i>et al.</i> (2008) Naive human T-cells become non-responsive towards anti-TNFalpha (infliximab) treatment in vitro if co-stimulated through CD28. <a href="#">Scand J Immunol. 68: 624-34.</a></li> <li>Morris, R.J. <i>et al.</i> (2005) A high-efficiency system of natural killer cell cloning. <a href="#">J Immunol Methods. 307: 24-33.</a></li> <li>Bughani U <i>et al.</i> (2017) T cell activation and differentiation is modulated by a CD6 domain 1 antibody Itolizumab. <a href="#">PLoS One. 12 (7): e0180088.</a></li> </ol>
<b>Storage</b>	<p>Store at +4°C or at -20°C if preferred.</p> <p>Storage in frost-free freezers is not recommended.</p> <p>This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.</p>
<b>Guarantee</b>	12 months from date of despatch
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA2184">https://www.bio-rad-antibodies.com/SDS/MCA2184</a> 10040
<b>Regulatory</b>	For research purposes only

## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR77...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>
Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">Alk. Phos.</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</a>
Rabbit Anti Mouse IgG (STAR13...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</a>

Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight®488](#), [DyLight®550](#),  
[DyLight®650](#), [DyLight®680](#), [DyLight®800](#),  
[FITC](#), [HRP](#)

Rabbit Anti Mouse IgG (STAR9...) [FITC](#)

Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)

### **Recommended Negative Controls**

[MOUSE IgG2a NEGATIVE CONTROL \(MCA929\)](#)

**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)

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'M366314:200529'

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