

# Datasheet: MCA2184PE

**BATCH NUMBER 151334**

<b>Description:</b>	MOUSE ANTI HUMAN CD3:RPE
<b>Specificity:</b>	CD3
<b>Format:</b>	RPE
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	MEM-57
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	100 TESTS

## 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 <b>N.B.</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 R. Phycoerythrin (RPE) - lyophilized		
Reconstitution	Reconstitute with 1 ml distilled water		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE 488nm laser	496	578
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		

<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative</b>	0.09% Sodium Azide
<b>Stabilisers</b>	1% Bovine Serum Albumin
<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>RRID</b>	AB_566703
<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 <math>\delta</math>-<math>\epsilon</math> or <math>\gamma</math>-<math>\epsilon</math> 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 CD3<math>\epsilon</math> 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 CD<math>\epsilon</math> 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 <math>\alpha/\beta</math> or <math>\gamma/\delta</math> expressed in a mutually exclusive manner, analogous 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, <math>\gamma</math>, <math>\delta</math>, <math>\epsilon</math> and <math>\zeta</math> 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>

**Flow Cytometry** Use 10ul of the suggested working dilution to label 10<sup>6</sup> cells in 100ul or 100ul whole blood

## References

1. Horejsí, V. *et al.* (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). [Folia Biol \(Praha\). 34 \(1\): 23-34.](#)
2. Dave, V.P. *et al.* (1998) Altered functional responsiveness of thymocyte subsets from CD3delta-deficient mice to TCR-CD3 engagement. [Int Immunol. 10: 1481-90.](#)
3. Transy, C. *et al.* (1989) Most anti-human CD3 monoclonal antibodies are directed to the CD3 epsilon subunit. [Eur J Immunol. 19: 947-50.](#)
4. Amlot, P.L. *et al.* (1996) Activation antigen expression on human T cells. I. Analysis by two-colour flow cytometry of umbilical cord blood, adult blood and lymphoid tissue. [Clin Exp Immunol. 105: 176-82.](#)
5. Gunnlaugsdottir, B. *et al.* (2008) Naive human T-cells become non-responsive towards anti-TNFalpha (infliximab) treatment in vitro if co-stimulated through CD28. [Scand J Immunol. 68: 624-34.](#)
6. Morris, R.J. *et al.* (2005) A high-efficiency system of natural killer cell cloning. [J Immunol Methods. 307: 24-33.](#)
7. Bughani U *et al.* (2017) T cell activation and differentiation is modulated by a CD6 domain 1 antibody Itolizumab. [PLoS One. 12 \(7\): e0180088.](#)

## Storage

Store at +4°C.

DO NOT FREEZE

This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use.

## Guarantee

12 months from date of despatch

## Health And Safety Information

Material Safety Datasheet documentation #20487 available at: <https://www.bio-rad-antibodies.com/SDS/MCA2184PE>  
20487

## Regulatory

For research purposes only

## Related Products

### Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:RPE \(MCA929PE\)](#)

### Recommended Useful Reagents

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

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

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