Datasheet: MCA2184

Description:	MOUSE ANTI HUMAN CD3
Specificity:	CD3
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	MEM-57
Isotype:	IgG2a
Quantity:	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.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/5 - 1/2
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	

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 - liquid

Preparation

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

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers	< 0.1% sodium azide (NaN_3)
Approx. Protein Concentrations	IgG concentration 1 mg/ml
External Database Links	**UniProt:** P04234 Related reagents P07766 Related reagents P09693 Related reagents **Entrez Gene:** 915 CD3D Related reagents 916 CD3E Related reagents 917 CD3G Related reagents
Synonyms	T3D, T3E, T3G
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the P3/NS1/1-Ag4-1 mouse myeloma cell line.
Specificity	**Mouse anti Human CD3 (MEM-57)** is a monoclonal antibody recognizing an extracellular epitope of the human CD3 complex containing either δ-ε or γ-ε subunit complexes (Dave *et al.* 1997). Mouse anti Human CD3 (MEM-57) recognizes a conformational CD3 epitope minimally requiring the presence of the CD3ε subunit extracellular domain (Transy *et al.* 1989) 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. The TCR complex consists of TCR heterodimers, either α/β or γ/δ expressed in a mutually exclusive manner, analagous that seen in mice 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 (Kuhns *et al.* 2006, Dave *et al.* 1997a, Dave *et al.* 1997b). Mouse anti Human CD3 clone MEM-57 demonstrates a mitogenic effect on peripheral blood T cells and on the lymphoblastoid Jurkat cell line (Batista *et al.* 2004 Brdicková *et al.* 2003). Clone MEM-57 immunoprecipitates proteins of ~22 kDa and more weakly ~28 kDa. from peripheral blood T cell lysates.
Purity	> 95% by SDS-PAGE

Flow Cytometry	Use 10µl of the suggested working dilution to label 10^6 cells in 100µl or 100µl 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. Transy, C. *et al.* (1989) Most anti-human CD3 monoclonal antibodies are directed to the CD3 epsilon subunit. Eur J Immunol. 19: 947-50. 3. 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. 4. 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. 5. Morris, R.J. *et al.* (2005) A high-efficiency system of natural killer cell cloning. J Immunol Methods. 307: 24-33. 6. 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. 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	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.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA2184 10040
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC
Rabbit Anti Mouse IgG (STAR13...)	HRP
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP

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

Recommended Negative Controls

MOUSE IgG2a NEGATIVE CONTROL (MCA929)

North & South America
Tel: +1 800 265 7376
Fax: +1 919 878 3751
Email: 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

Europe
Tel: +49 (0) 89 8090 95 21
Fax: +49 (0) 89 8090 95 50
Email: antibody_sales_de@bio-rad.com

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

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