

Datasheet: MCA2184F

Description:	MOUSE ANTI HUMAN CD3:FITC
Specificity:	CD3
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	MEM-57
Isotype:	IgG2a
Quantity:	0.1 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	▪			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 Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
FITC	490	525

Preparation

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

Buffer Solution

Phosphate buffered saline

Preservative 0.09% sodium azide (NaN₃)
Stabilisers 1% bovine serum albumin

Approx. Protein Concentrations IgG concentration 0.1 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

RRID AB_324176

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 CD3 ϵ subunit extracellular domain ([Transy et al. 1989](#)) as it will recognize murine 3D054.8 hybridoma cells transfected with cDNA to express the human CD ϵ 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.

Flow Cytometry Use 10µl of the suggested working dilution to label 10⁶ 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. This product is photosensitive and should be protected from light.

Guarantee

12 months from date of despatch

Health And Safety Information

Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA2184F10041>

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:FITC \(MCA929F\)](#)

Recommended Useful Reagents

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

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

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Fax: +1 919 878 3751

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Fax: +44 (0)1865 852 739

Europe Tel: +49 (0) 89 8090 95 21
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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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