

## Datasheet: MCA500A488

**BATCH NUMBER 171862**

<b>Description:</b>	RAT ANTI MOUSE CD3:Alexa Fluor® 488
<b>Specificity:</b>	CD3
<b>Format:</b>	ALEXA FLUOR® 488
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	KT3
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	100 TESTS/1ml

### 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 - 1/10

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.

<b>Target Species</b>	Mouse		
<b>Product Form</b>	Purified IgG conjugated to Alexa Fluor® 488 - liquid		
<b>Max Ex/Em</b>	<b>Fluorophore</b>	<b>Excitation Max (nm)</b>	<b>Emission Max (nm)</b>
	Alexa Fluor®488	495	519
<b>Preparation</b>	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>Approx. Protein Concentrations</b>	IgG concentration 0.05 mg/ml		

Immunogen CBAT6 thymocytes

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**External Database**

**Links**

**UniProt:**

[P22646](#) [Related reagents](#)  
[P24161](#) [Related reagents](#)  
[P11942](#) [Related reagents](#)  
[P29020](#) [Related reagents](#)  
[P04235](#) [Related reagents](#)

**Entrez Gene:**

[12501](#) Cd3e [Related reagents](#)  
[12503](#) Cd247 [Related reagents](#)  
[12500](#) Cd3d [Related reagents](#)  
[12502](#) Cd3g [Related reagents](#)  
[12503](#) Cd247 [Related reagents](#)

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**Synonyms** Cd3z, T3d, Tcrz

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**RRID** AB\_324881

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**Fusion Partners** Spleen cells from immunized SD rats were fused with cells of the NS0 mouse myeloma cell line.

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**Specificity** **Rat anti Mouse CD3 antibody, clone KT3** recognizes the mouse CD3 antigen, expressed by mature T cells. Rat anti Mouse CD3 antibody, clone KT3 may be used to trigger proliferation and cytotoxicity of CD3 positive cells ([Tomonari 1988](#)).

NB. For optimal staining incubations should be performed at room temperature.

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**Flow Cytometry** Use 10ul of the suggested working dilution to label  $10^6$  cells or 100ul whole blood.

The Fc region of monoclonal antibodies may bind non-specifically to cells expressing low affinity Fc receptors. This may be reduced by using SeroBlock FcR ([BUF041A/B](#)).

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**References**

1. Tomonari, K. (1988) A rat antibody against a structure functionally related to the mouse T-cell receptor/T3 complex. [Immunogenetics. 28 \(6\): 455-8.](#)
2. Lazarovits, A.I. *et al.* (1999) Mechanisms of induction of renal allograft tolerance in CD45RB-treated mice. [Kidney Int. 55: 1303-10.](#)
3. Heitmann, S. *et al.* (1999) Immunohistological characterization of leukocytes in the lungs of healthy mice and after bacterial intratracheal infection. [Lab Anim. 33: 288-94.](#)
4. Tarlton, J.F. *et al.* (2000) The role of up-regulated serine proteases and matrix metalloproteinases in the pathogenesis of a murine model of colitis. [Am J Pathol. 157: 1927-35.](#)
5. Lacroix-Lamandé, S. *et al.* (2002) Role of gamma interferon in chemokine expression in the ileum of mice and in a murine intestinal epithelial cell line after *Cryptosporidium parvum* infection. [Infect Immun. 70 \(4\): 2090-9.](#)

6. Kumar, L. *et al.* (2002) Differential role of SLP-76 domains in T cell development and function. [Proc Natl Acad Sci U S A. 99: 884-9.](#)
7. Hare, K.J. *et al.* (2003) Modeling TCR signaling complex formation in positive selection. [J Immunol. 171: 2825-31.](#)
8. Erlandsson, L. *et al.* (2004) Impaired B-1 and B-2 B cell development and atypical splenic B cell structures in IL-7 receptor-deficient mice. [Eur J Immunol. 34: 3595-603.](#)
9. Hirsh, M. *et al.* (2004) Response of lung gammadelta T cells to experimental sepsis in mice. [Immunology. 112: 153-60.](#)
10. Severinová, J. *et al.* (2005) Co-inoculation of *Borrelia afzelii* with tick salivary gland extract influences distribution of immunocompetent cells in the skin and lymph nodes of mice. [Folia Microbiol \(Praha\). 50: 457-63.](#)
11. Bauer, D. *et al.* (2009) Amniotic membrane transplantation induces apoptosis in T lymphocytes in murine corneas with experimental herpetic stromal keratitis [Invest Ophthalmol Vis Sci. 50: 3188-98.](#)
12. Haroon, F. *et al.*, (2011) Gp130-dependent astrocytic survival is critical for the control of autoimmune central nervous system inflammation. [J Immunol. 186: 6521-31.](#)
13. Rothhammer, V. *et al.* (2011) Th17 lymphocytes traffic to the central nervous system independently of  $\alpha 4$  integrin expression during EAE. [J Exp Med. 208 \(12\): 2465-76.](#)
14. Salem, M. *et al.* (2011) Interferon regulatory factor-7 modulates experimental autoimmune encephalomyelitis in mice. [J Neuroinflammation. 8: 181.](#)
15. Teeling, J.L. *et al.* (2012) Intracerebral immune complex formation induces inflammation in the brain that depends on Fc receptor interaction. [Acta Neuropathol. 124 \(4\): 479-90.](#)
16. Hoeksema, M.A. *et al.* (2014) Targeting macrophage Histone deacetylase 3 stabilizes atherosclerotic lesions. [EMBO Mol Med. pii: e201404170.](#)
17. Scheinert, R.B. *et al.* (2016) Therapeutic effects of stress-programmed lymphocytes transferred to chronically stressed mice. [Prog Neuropsychopharmacol Biol Psychiatry. 70: 1-7.](#)
18. Janssen, E. *et al.* (2016) A DOCK8-WIP-WASp complex links T cell receptors to the actin cytoskeleton. [J Clin Invest. 126 \(10\): 3837-51.](#)
19. Van Aelst, L.N. *et al.* (2016) RNA Profiling in Human and Murine Transplanted Hearts: Identification and Validation of Therapeutic Targets for Acute Cardiac and Renal Allograft Rejection. [Am J Transplant. 16 \(1\): 99-110.](#)
20. Kim, I. *et al.* (2016) Immunological characterization of de novo and recall alloantibody suppression by CTLA4Ig in a mouse model of allosensitization. [Transpl Immunol. 38: 84-92.](#)
21. Massa, M.G. *et al.* (2017) Testosterone Differentially Affects T Cells and Neurons in Murine and Human Models of Neuroinflammation and Neurodegeneration. [Am J Pathol. 187 \(7\): 1613-22.](#)
22. Granadillo, M. *et al.* (2019) Impact on antitumor response using a new adjuvant preparation as a component of a human papillomavirus type 16 therapeutic vaccine candidate. [Vaccine. 37 \(30\): 3957-60.](#)
23. Yun, M. *et al.* (2020) Enriched-Baicalein Attenuates Allergy in Cells and Mice [Ev-Based Comp Alt Med.. 2020: 1-8.](#)
24. Zamudio, F. *et al.* (2020) TDP-43 mediated blood-brain barrier permeability and leukocyte infiltration promote neurodegeneration in a low-grade systemic inflammation mouse model. [J Neuroinflammation. 17 \(1\): 283.](#)

25. Azulay, M. *et al.* (2023) Tumor-targeted superantigens produce curative tumor immunity with induction of memory and demonstrated antigen spreading. [J Transl Med. 21 \(1\): 222.](#)
26. Aloui, A. *et al.* (2023) AFM<sub>1</sub> Exposure in Male Balb/c Mice and Intervention Strategies Against Its Immuno-physiological toxicity using Clay Mineral and Lactic Acid Bacteria Alone or in Combination. [Immunopharmacol Immunotoxicol. : 1-32.](#)
27. Stein, S. *et al.* (2021) Deletion of fibroblast activation protein provides atheroprotection. [Cardiovasc Res. 117 \(4\): 1060-9.](#)
28. Jung, J. *et al.* (2018) Calnexin is necessary for T cell transmigration into the central nervous system. [JCI Insight. 3 \(5\): e98410.](#)
29. Griffiths, M.R. *et al.* (2018) CD93 regulates central nervous system inflammation in two mouse models of autoimmune encephalomyelitis. [Immunology. 155 \(3\): 346-55.](#)
30. von Rauchhaupt, E. *et al.* (2024) GDF-15 Suppresses Puromycin Aminonucleoside-Induced Podocyte Injury by Reducing Endoplasmic Reticulum Stress and Glomerular Inflammation [Cells. 13 \(7\): 637.](#)
31. Montero, A.S. *et al.* (2024) Effect of ultrasound-mediated blood-spinal cord barrier opening on survival and motor function in females in an amyotrophic lateral sclerosis mouse model. [EBioMedicine. 106: 105235.](#)
32. Elchaninov, A. *et al.* (2025) Splenectomy reduces shear stress and inflammation in liver endothelial cells during regeneration after partial hepatectomy in mice. [Sci Rep. 16 \(1\): 2706.](#)

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**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.

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**Guarantee** 12 months from date of despatch

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**Health And Safety Information** Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA500A488>

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**Regulatory** For research purposes only

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## Related Products

### Recommended Negative Controls

[RAT IgG2a NEGATIVE CONTROL:Alexa Fluor® 488 \(MCA1212A488\)](#)

### Recommended Useful Reagents

[MOUSE SEROBLOCK FcR \(BUF041A\)](#)

[MOUSE SEROBLOCK FcR \(BUF041B\)](#)

**Product inquiries: [www.bio-rad-antibodies.com/technical-support](http://www.bio-rad-antibodies.com/technical-support)**

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