

Datasheet: MCA1031SBUV445

BATCH NUMBER 100006448

Description:	RAT ANTI MOUSE CD45:StarBright UltraViolet 445
Specificity:	CD45
Other names:	LCA
Format:	StarBright UltraViolet 445
Product Type:	Monoclonal Antibody
Clone:	YW62.3
Isotype:	IgG2b
Quantity:	100 TESTS/0.5ml

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	Mouse		
Product Form	Purified IgG conjugated to StarBright UltraViolet 445 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	StarBright UltraViolet 445	347	440
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide (NaN ₃)		
Stabilisers	1% Bovine Serum Albumin		
	0.1% Pluronic F68		

0.1% PEG 3350
0.05% Tween 20

Immunogen	Mouse spleen cells.
External Database Links	UniProt: P06800 Related reagents Entrez Gene: 19264 Ptprc Related reagents
Synonyms	Ly-5
Fusion Partners	Spleen cells from immunised DA rats were fused with cells of the rat Y3/Ag1.2.3 myeloma cell line.
Specificity	Rat anti Mouse CD45 antibody, clone YW62.3 recognizes the murine CD45 cell surface antigen, a single pass type1 transmembrane glycoprotein also known as protein tyrosine phosphatase receptor type C (PTPRC) and originally termed Leucocyte Common Antigen (LCA). CD45 is a 180-220kDa glycoprotein expressed by all leucocytes. CD45 is encoded by 3 alleles in mice, differentially expressed by various inbred strains. The Ly5 gene was originally described with the gene product LY5.1 expressed in C57bl/6 and Ly5.2 expressed in SJL strains (Komura et al. 1975), this was subsequently expanded to include a third allele encoding Ly5.3 (Shen et al. 1986). Further, in 1987 a reversal of nomenclature was instigated resulting in the allele in C57bl/6 becoming Ly5^b encoding Ly5.2 and the allele in SJL mice becoming Ly5^a encoding Ly5.1 (Morse et al. 1987). Further changes were made in 1992 with Ly5.1 becoming CD45.1 (SJL) and Ly5.2 becoming CD45.2 (C57bl/6). Finally, following work demonstrating homology between the CD45 antigen and a receptor linked protein tyrosine phosphatase the CD45^a gene was renamed Ptprc^a and CD45^b renamed Ptprc^b (Charbonneau et al. 1988; Zebedee et al. 1991). A number of different isoforms of CD45 are expressed on murine leucocytes depending on the pattern of alternative splicing of 3 exons termed A, B and C encoding regions of ~ 50 amino acids located at the N terminal region of the extracellular portion of CD45. The restricted proteins are termed CD45R with a designation depending on the expressed codon product. (Birkeland et al. 1989). Rat anti mouse CD45 antibody, clone YW62.3 is reactive with all isoforms of murine CD45. N.B. Some reactivity with human tissue has been observed.
Flow Cytometry	Use 5ul of the suggested working dilution to label 10 ⁶ cells in 100ul. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.

References

1. Watt, S.M. *et al.* (1987) Cell-surface markers on haemopoietic precursors. Reagents for the isolation and analysis of progenitor cell subpopulations. [Mol Cell Probes. 1 \(4\): 297-326.](#)
2. Zirger, J.M. *et al.* (2012) Immune-mediated loss of transgene expression from virally transduced brain cells is irreversible, mediated by IFN γ , perforin, and TNF α , and due to the elimination of transduced cells. [Mol Ther. 20 \(4\): 808-19.](#)
3. Long, G.G. *et al.* (2010) Hematopoietic Proliferative Lesions in the Spleen of rasH2 Transgenic Mice Treated with MNU. [Toxicol Pathol. 38: 1026-36.](#)
4. Drake, C. *et al.* (2011) Brain inflammation is induced by co-morbidities and risk factors for stroke. [Brain Behav Immun. 25: 1113-22.](#)
5. Chan, D.A. *et al.* (2009) Tumor vasculature is regulated by PHD2-mediated angiogenesis and bone marrow-derived cell recruitment. [Cancer Cell. 15: 527-38.](#)
6. Lebson, L. *et al.* (2010) Trafficking CD11b-positive blood cells deliver therapeutic genes to the brain of amyloid-depositing transgenic mice. [J Neurosci. 30: 9651-8.](#)
7. Lee, D.C. *et al.* (2010) LPS- induced inflammation exacerbates phospho-tau pathology in rTg4510 mice. [J Neuroinflammation. 7: 56.](#)
8. Wang, S. *et al.* (2008) Drak2 contributes to West Nile virus entry into the brain and lethal encephalitis. [J Immunol. 181: 2084-91.](#)
9. Paz, H. *et al.* (2010) The homeobox gene Hhex regulates the earliest stages of definitive hematopoiesis. [Blood. 116: 1254-62.](#)
10. Reed-Geaghan, E.G. *et al.* (2010) Deletion of CD14 attenuates Alzheimer's disease pathology by influencing the brain's inflammatory milieu. [J Neurosci. 30: 15369-73.](#)
11. Yang, R. *et al.* (2010) Successful treatment of experimental glomerulonephritis with IdeS and EndoS, IgG-degrading streptococcal enzymes. [Nephrol Dial Transplant. 25: 2479-86.](#)
12. Yang, J. *et al.* (2010) Evaluation of bone marrow- and brain-derived neural stem cells in therapy of central nervous system autoimmunity. [Am J Pathol. 177: 1989-2001.](#)
13. Yoshizaki, A. *et al.* (2010) Cell adhesion molecules regulate fibrotic process via Th1/Th2/Th17 cell balance in a bleomycin-induced scleroderma model. [J Immunol. 185: 2502-15.](#)
14. Abramowski, D. *et al.* (2012) Transgenic Expression of Intraneuronal A β 42 But Not A β 40 Leads to Cellular A β Lesions, Degeneration, and Functional Impairment without Typical Alzheimer's Disease Pathology. [J Neurosci. 32: 1273-83.](#)
15. Dénes, A. *et al.* (2010) Chronic systemic infection exacerbates ischemic brain damage via a CCL5 (regulated on activation, normal T-cell expressed and secreted)-mediated proinflammatory response in mice. [J Neurosci. 30: 10086-95.](#)
16. Kondo, Y. *et al.* (2007) Osteopetrotic (op/op) mice have reduced microglia, no A β deposition, and no changes in dopaminergic neurons. [J Neuroinflammation. 4: 31.](#)
17. Lee, S. *et al.* (2010) CX3CR1 deficiency alters microglial activation and reduces beta-amyloid deposition in two Alzheimer's disease mouse models. [Am J Pathol. 177: 2549-62.](#)
18. Jawhara, S. *et al.* (2012) Integrin α X β $_z$ is a leukocyte receptor for *Candida albicans* and is essential for protection against fungal infections. [J Immunol. 189 \(5\): 2468-77.](#)
19. Yamauchi, S. *et al.* (2012) Myosin II-dependent exclusion of CD45 from the site of Fc γ receptor activation during phagocytosis. [FEBS Lett. 586: 3229-35.](#)
20. Yazid, S. *et al.* (2015) Annexin-A1 restricts Th17 cells and attenuates the severity of autoimmune disease. [J Autoimmun. 58: 1-11.](#)

21. Kan, M.J. *et al.* (2015) Arginine deprivation and immune suppression in a mouse model of Alzheimer's disease. [J Neurosci. 35 \(15\): 5969-82.](#)
22. Bachstetter, A.D. *et al.* (2011) Fractalkine and CX 3 CR1 regulate hippocampal neurogenesis in adult and aged rats. [Neurobiol Aging. 32 \(11\): 2030-44.](#)
23. Kuffová, L. *et al.* (2008) Cross presentation of antigen on MHC class II via the draining lymph node after corneal transplantation in mice. [J Immunol. 180 \(3\): 1353-61.](#)
24. Murinello, S. *et al.* (2014) Fcγ receptor upregulation is associated with immune complex inflammation in the mouse retina and early age-related macular degeneration. [Invest Ophthalmol Vis Sci. 55 \(1\): 247-58.](#)
25. Mills, J.H. *et al.* (2012) A2A adenosine receptor signaling in lymphocytes and the central nervous system regulates inflammation during experimental autoimmune encephalomyelitis. [J Immunol. 188 \(11\): 5713-22.](#)
26. McMorran, B.J. *et al.* (2001) G551D CF mice display an abnormal host response and have impaired clearance of *Pseudomonas* lung disease. [Am J Physiol Lung Cell Mol Physiol. 281 \(3\): L740-7.](#)
27. Benson, C. *et al.* (2015) Voluntary wheel running delays disease onset and reduces pain hypersensitivity in early experimental autoimmune encephalomyelitis (EAE). [Exp Neurol. 271: 279-90.](#)
28. Marcos, E. *et al.* (2016) Dengue encephalitis-associated immunopathology in the mouse model: Implications for vaccine developers and antigens inducer of cellular immune response. [Immunol Lett. 176: 51-6.](#)
29. Carbajal, K.S. *et al.* (2015) Th Cell Diversity in Experimental Autoimmune Encephalomyelitis and Multiple Sclerosis. [J Immunol. 195 \(6\): 2552-9.](#)
30. Srivastava, A.K. *et al.* (2016) Co-transplantation of syngeneic mesenchymal stem cells improves survival of allogeneic glial-restricted precursors in mouse brain. [Exp Neurol. 275 Pt 1: 154-61.](#)
31. Haile, W.B. *et al.* (2016) The Janus kinase inhibitor ruxolitinib reduces HIV replication in human macrophages and ameliorates HIV encephalitis in a murine model. [Neurobiol Dis. 92 \(Pt B\): 137-43.](#)
32. Park, S.A. *et al.* (2016) Deficiency in either COX-1 or COX-2 genes does not affect amyloid beta protein burden in amyloid precursor protein transgenic mice. [Biochem Biophys Res Commun. 478 \(1\): 286-92.](#)
33. Chu, C.J. *et al.* (2013) Assessment and *in vivo* scoring of murine experimental autoimmune uveoretinitis using optical coherence tomography. [PLoS One. 8 \(5\): e63002.](#)
34. Hargreaves, A. *et al.* (2021) Tumors modulate fenestrated vascular beds and host endocrine status. [J Appl Toxicol. 41 \(12\): 1952-65.](#)
35. Filograna, R. *et al.* (2021) Mitochondrial dysfunction in adult midbrain dopamine neurons triggers an early immune response. [PLoS Genet. 17 \(9\): e1009822.](#)
36. Zhu, C. *et al.* (2020) Antinociceptive effect of intrathecal injection of miR-9-5p modified mouse bone marrow mesenchymal stem cells on a mouse model of bone cancer pain. [J Neuroinflammation. 17 \(1\): 85.](#)
37. Hargreaves, A. *et al.* (2022) Tumours modulate the systemic vascular response to anti-angiogenic therapy. [J Appl Toxicol. Feb 13 \[Epub ahead of print\].](#)

Storage

Store at +4°C. DO NOT FREEZE.
This product should be stored undiluted.

Guarantee	12 months from date of despatch
Acknowledgements	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
Health And Safety Information	Material Safety Datasheet documentation #20471 available at: https://www.bio-rad-antibodies.com/SDS/MCA1031SBUV445 20471
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

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

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

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
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