

Datasheet: MCA51R

Description:	MOUSE ANTI RAT MHC CLASS I RT1A
Specificity:	MHC CLASS I RT1A
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	OX-18
Isotype:	IgG1
Quantity:	0.25 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	▪			1/50 - 1/100
Immunohistology - Frozen (1)	▪			
Immunohistology - Paraffin		▪		
ELISA	▪			
Immunoprecipitation	▪			
Western Blotting			▪	

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.

(1)The epitope recognised by this antibody is reported to be sensitive to formaldehyde fixation and tissue processing. Bio-Rad recommends the use of acetone fixation for frozen sections.

Target Species	Rat
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	0.09% Sodium Azide
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Rat spleen cell glycoproteins
RRID	AB_322394
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the mouse P3X63Ag8.653 myeloma cell line.
Specificity	<p>Mouse anti Rat MHC Class I RT1A antibody, clone OX-18 recognizes a monomorphic determinant of rat MHC Class I (RT1A), expressed by all rat strains. However, quantitative measurements suggest that not all of the class I molecules are recognized.</p> <p>Mouse anti Rat MHC Class I RT1A antibody, clone OX-18 has been used in immunoaffinity purification of rat MHC class I molecules (Fukumoto <i>et al.</i> 1982).</p> <p>Mouse anti Rat MHC Class I RT1A antibody, clone OX-18 is routinely tested in flow cytometry on rat splenocytes.</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
Immunohistology	Acetone fixation recommended - the antigen is sensitive to fixation with paraformaldehyde.
References	<ol style="list-style-type: none"> 1. Fukumoto, T. <i>et al.</i> (1982) Mouse monoclonal antibodies against rat major histocompatibility antigens. Two Ia antigens and expression of Ia and class I antigens in rat thymus. Eur J Immunol. 12 (3): 237-43. 2. Bukovský, A. <i>et al.</i> (1984) Association of some cell surface antigens of lymphoid cells and cell surface differentiation antigens with early rat pregnancy. Immunology. 52: 631-40 3. Osawa, H. <i>et al.</i> (1985) Inhibition of IL 2-dependent proliferation of rat T lymphoblasts by the monoclonal antibody ART62 which reacts with MHC class 1 antigens. J Immunol. 134 (6): 3901-6. 4. Chacon, M.A. & Boulanger, L.M. (2013) MHC class I protein is expressed by neurons and neural progenitors in mid-gestation mouse brain. Mol Cell Neurosci. 52: 117-27. 5. Fujikawa, L.S. <i>et al.</i> (1989) Class II antigens on retinal vascular endothelium, pericytes, macrophages, and lymphocytes of the rat. Invest Ophthalmol Vis Sci. 30 (1): 66-73. 6. Zhai, Y. and Knechtle, S. <i>et al.</i> (1998) Two distinct forms of soluble MHC class I molecules synthesized by different mechanisms in normal rat cells in vitro Human Immunol. 59: 404-14 7. Baca Jones, C.C. <i>et al.</i> (2009) Rat cytomegalovirus infection depletes MHC II in bone marrow derived dendritic cells. Virology. 388: 78-90. 8. Edamura, M. <i>et al.</i> (2014) Functional deficiency of MHC class I enhances LTP and

- abolishes LTD in the nucleus accumbens of mice. [PLoS One. 9 \(9\): e107099.](#)
9. Cunningham, T.L. *et al.* (2014) Correlations between blood-brain barrier disruption and neuroinflammation in an experimental model of penetrating ballistic-like brain injury. [J Neurotrauma. 31 \(5\): 505-14.](#)
10. Skwirba, M. *et al.* (2014) Expression of nestin after renal transplantation in the rat. [APMIS. 122 \(10\): 1020-31.](#)
11. Schu, S. *et al.* (2012) Immunogenicity of allogeneic mesenchymal stem cells. [J Cell Mol Med. 16 \(9\): 2094-103.](#)
12. Dixon-Salazar, T.J. *et al.* (2014) MHC class I limits hippocampal synapse density by inhibiting neuronal insulin receptor signaling. [J Neurosci. 34 \(35\): 11844-56.](#)
13. Yang, C. *et al.* (2013) Pre-immunization with an intramuscular injection of AAV9-human erythropoietin vectors reduces the vector-mediated transduction following re-administration in rat brain. [PLoS One. 8 \(5\): e63876.](#)
14. Elmer BM *et al.* (2013) MHCI requires MEF2 transcription factors to negatively regulate synapse density during development and in disease. [J Neurosci. 33 \(34\): 13791-804.](#)
15. Picarda E *et al.* (2014) MHC-derived allopeptide activates TCR-biased CD8+ Tregs and suppresses organ rejection. [J Clin Invest. 124 \(6\): 2497-512.](#)
16. Ma, R. *et al.* (2013) Structural integrity, ECM components and immunogenicity of decellularized laryngeal scaffold with preserved cartilage. [Biomaterials. 34 \(7\): 1790-8.](#)
17. Lu, X.C. *et al.* (2015) Dual Therapeutic Effects of C-10068, a Dextromethorphan Derivative, Against Post-Traumatic Nonconvulsive Seizures and Neuroinflammation in a Rat Model of Penetrating Ballistic-Like Brain Injury. [J Neurotrauma. 32 \(20\): 1621-32.](#)
18. Treacy, O. *et al.* (2012) Adenoviral transduction of mesenchymal stem cells: in vitro responses and in vivo immune responses after cell transplantation. [PLoS One. 7 \(8\): e42662.](#)
19. Inácio, R.F. *et al.* (2012) Interferon beta modulates major histocompatibility complex class I (MHC I) and CD3-zeta expression in PC12 cells. [Neurosci Lett. 513 \(2\): 223-8.](#)
20. Yang, Y.M. *et al.* (2013) Microglial TNF- α -dependent elevation of MHC class I expression on brain endothelium induced by amyloid-beta promotes T cell transendothelial migration. [Neurochem Res. 38 \(11\): 2295-304.](#)
21. Zhang, J. *et al.* (2017) Changes in Expressions of Major Histocompatibility Complex Class I, Paired-Immunoglobulin-Like Receptor B, and Cluster of Differentiation 3 ζ in Motor Cortical Representations of the Brachial Plexus After Avulsion in Rats. [World Neurosurg. 106: 211-8.](#)
22. Otto, C. *et al.* (2012) Immunisation with an allogeneic peptide promotes the induction of antigen-specific MHC II(pos) CD4+ rat T cells demonstrating immunostimulatory properties. [Transpl Immunol. 26 \(4\): 220-9.](#)
23. Coiro, P. *et al.* (2015) Impaired synaptic development in a maternal immune activation mouse model of neurodevelopmental disorders. [Brain Behav Immun. pii: S0889-1591\(15\)00417-1.](#)
24. Bombeiro, A.L. *et al.* (2017) Importance of major histocompatibility complex of class I (MHC-I) expression for astroglial reactivity and stability of neural circuits *in vitro*. [Neurosci Lett. 647: 97-103.](#)
25. Iinuma, C. *et al.* (2015) Establishment of a vascular endothelial cell-reactive type II NKT cell clone from a rat model of autoimmune vasculitis. [Int Immunol. 27 \(2\): 105-14.](#)
26. Kanie, K. *et al.* (2019) Pathogenesis of Anti-PIT-1 Antibody Syndrome: PIT-1

Presentation by HLA Class I on Anterior Pituitary Cells. [J Endocr Soc. 3 \(11\): 1969-78.](#)
27. Li, P. *et al.* (2020) Neuronal NLRC5 regulates MHC class I expression in Neuro-2a cells and also during hippocampal development. [J Neurochem. 152 \(2\): 182-94.](#)

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/MCA51R10040>

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

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA1209\)](#)

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](https://www.bio-rad-antibodies.com/datasheets)
'M432553:240903'

Printed on 03 Sep 2024