

Datasheet: MCA51G

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:	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	■			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 G 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
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the mouse P3X63Ag8.653 myeloma cell line.
Specificity	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. Mouse anti Rat MHC Class I RT1A antibody, clone OX-18 has been used in immunoaffinity purification of rat MHC class I molecules (Fukumoto et al. 1982). Mouse anti Rat MHC Class I RT1A antibody, clone OX-18 is routinely tested in flow cytometry on rat splenocytes.
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	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. <i>et al.</i> (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. <i>et al.</i> (2014) Expression of nestin after renal transplantation in the rat. APMIS. 122 (10): 1020-31. 11. Schu, S. <i>et al.</i> (2012) Immunogenicity of allogeneic mesenchymal stem cells. J Cell Mol Med. 16 (9): 2094-103. 12. Dixon-Salazar, T.J. <i>et al.</i> (2014) MHC class I limits hippocampal synapse density by inhibiting neuronal insulin receptor signaling. J Neurosci. 34 (35): 11844-56. 13. Iinuma, C. <i>et al.</i> (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. 14. Yang, C. <i>et al.</i> (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. 15. Elmer BM <i>et al.</i> (2013) MHCI requires MEF2 transcription factors to negatively regulate synapse density during development and in disease. J Neurosci. 33 (34): 13791-804.

16. Picarda E *et al.* (2014) MHC-derived allopeptide activates TCR-biased CD8+ Tregs and suppresses organ rejection. [J Clin Invest. 124 \(6\): 2497-512.](#)
17. Ma, R. *et al.* (2013) Structural integrity, ECM components and immunogenicity of decellularized laryngeal scaffold with preserved cartilage. [Biomaterials. 34 \(7\): 1790-8.](#)
18. 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.](#)
19. 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.](#)
20. 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.](#)
21. Zhang, J. *et al.* (2017) Changes in expressions of MHCI, PirB and CD3ζ in motor cortical representations of the brachial plexus after avulsion in rats. [World Neurosurg. Jun 29. pii: S1878-8750\(17\)31028-8. \[Epub ahead of print\]](#)
22. 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.](#)
23. 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.](#)
24. 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.](#)
25. 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.](#)

Storage

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Shelf Life

18 months from date of despatch.

Health And Safety Information

Material Safety Datasheet documentation #10040 available at: 10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

Regulatory

For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	Alk. Phos. , HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP
Rabbit Anti Mouse IgG (STAR8...)	DyLight®800
Goat Anti Mouse IgG (STAR70...)	FITC

Rabbit Anti Mouse IgG (STAR13...) [HRP](#)
Human Anti Mouse IgG1 (HCA036...) [HRP](#)
Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight®488](#), [DyLight®549](#),
[DyLight®649](#), [DyLight®680](#), [DyLight®800](#),
[FITC](#), [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
----------------------------------	---	------------------	---	---------------	---

'M319182:180719'

Printed on 01 Aug 2018

© 2018 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)