

Datasheet: MCA453G

Description:	MOUSE ANTI RAT TCR ALPHA/BETA
Specificity:	TCR ALPHA/BETA
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	R73
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	▪			1/10 - 1/100
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.

Target Species	Rat
Species Cross Reactivity	<p>Reacts with: Monkey, Cynomolgus monkey</p> <p>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.</p>
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 T blasts and erythrocytes.
RRID	AB_322435
Fusion Partners	Spleen cells from immunized BALB/c mice were fused with cells of the X63.Ag8.653 mouse myeloma cell line.
Specificity	<p>Mouse anti Rat TCR alpha/beta antibody, clone R73 recognizes a constant determinant on the beta chain of the rat alpha/beta T cell receptor, expressed by 97% of peripheral rat T cells as defined by the OX-52 marker. R73 is mitogenic for unseparated spleen cells and for purified T cells. In the rat thymus, mature medullary cells express the R73 determinant at the same levels as peripheral T cells, whereas 94% of CD4 - CD8 - thymocytes are R73 negative.</p> <p>Mouse anti Rat TCR alpha/beta antibody, clone R73 is reported to stimulate adhesion between Thymic Dendritic Cells and Thymocytes (Colic et al. 2010).</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 100ul of whole blood or 10 ⁶ cells in 100ul.
References	<ol style="list-style-type: none"> Tomida, S. <i>et al.</i> (1994) Intercellular adhesion molecule-1 and leukocyte function-associated antigen-1 are involved in protection mediated by CD3+TCR alpha beta- T cells at the early stage after infection with <i>Listeria monocytogenes</i> in rats. Int Immunol. 6 (7): 955-61. Colić, M. <i>et al.</i> (1996) Mechanisms involved in the binding of thymocytes to rat thymic dendritic cells. Dev Immunol. 5 (1): 37-51. Kanellis, J. <i>et al.</i> (2010) JNK signalling in human and experimental renal ischaemia/reperfusion injury. Nephrol Dial Transplant. 25: 2898-908. Nave, H. <i>et al.</i> (2008) Resistance of Janus kinase-2 dependent leptin signaling in natural killer (NK) cells: a novel mechanism of NK cell dysfunction in diet-induced obesity. Endocrinology. 149: 3370-8. Tsuchida, M. <i>et al.</i> (1994) Identification of CD4- CD8- alpha beta T cells in the subarachnoid space of rats with experimental autoimmune encephalomyelitis. A possible route by which effector cells invade the lesions. Immunology. 81 (3): 420-7. Matsumoto, Y. <i>et al.</i> (1994) Successful prevention and treatment of autoimmune encephalomyelitis by short-term administration of anti-T-cell receptor alpha beta antibody. Immunology. 81 (1): 1-7. Pilipović, I. <i>et al.</i> (2010) Glucocorticoids, master modulators of the thymic catecholaminergic system? Braz J Med Biol Res. 43 (3): 279-84. Milicevic, N.M. <i>et al.</i> (2005) T cells are required for the peripheral phase of B-cell

- maturation. [Immunology. 116: 308-17.](#)
9. Kenny, E. *et al.* (2000) Phenotypic analysis of peripheral CD4+ CD8+ T cells in the rat. [Immunology. 101: 178-84.](#)
 10. Petrovic-Dergovic, D.M. *et al.* (2004) Somatostatin-14 alters the thymus size and relation among the thymocyte subpopulations in peripubertal rats. [Neuropeptides. 38: 25-34.](#)
 11. Trinh, L. *et al.* (2008) The corneal endothelium in an endotoxin-induced uveitis model: correlation between in vivo confocal microscopy and immunohistochemistry. [Mol Vis. 14: 1149-56.](#)
 12. Khalife, S. *et al.* (2016) Relationship Between *Pneumocystis carinii* Burden and the Degree of Host Immunosuppression in an Airborne Transmission Experimental Model. [J Eukaryot Microbiol. 63 \(3\): 309-17.](#)
 13. Bat, E. *et al.* (2013) Physical properties and erosion behavior of poly(trimethylene carbonate-co- ϵ -caprolactone) networks. [Macromol Biosci. 13 \(5\): 573-83.](#)
 14. Jörns, A. *et al.* (2015) TNF- α Antibody Therapy in Combination With the T-Cell-Specific Antibody Anti-TCR Reverses the Diabetic Metabolic State in the LEW.1AR1-iddm Rat. [Diabetes. 64 \(8\): 2880-91.](#)
 15. Ahn, M. *et al.* (2015) Immunohistochemical study of Krüppel-like factor 4 in the spinal cords of rats with experimental autoimmune encephalomyelitis. [Acta Histochem. 117 \(6\): 521-7.](#)
 16. Jörns A *et al.* (2014) Anti-TCR therapy combined with fingolimod for reversal of diabetic hyperglycemia by β cell regeneration in the LEW.1AR1-iddm rat model of type 1 diabetes. [J Mol Med \(Berl\). 92 \(7\): 743-55.](#)
 17. Amos, L.A. *et al.* (2018) ASK1 inhibitor treatment suppresses p38/JNK signalling with reduced kidney inflammation and fibrosis in rat crescentic glomerulonephritis. [J Cell Mol Med. 22 \(9\): 4522-33.](#)
 18. Koppe, C. *et al.* (2021) Local Inflammatory Response after Intramuscularly Implantation of Anti-Adhesive Plasma-Fluorocarbon-Polymer Coated Ti6Al4V Discs in Rats. [Polymers \(Basel\). 13 \(16\): 2684.](#)
 19. Schmiedl, A. *et al.* (2021) Lung development and immune status under chronic LPS exposure in rat pups with and without CD26/DPP4 deficiency. [Cell Tissue Res. Oct 04 \[Epub ahead of print\].](#)
 20. Köhler, R. *et al.* (2022) Association of systemic antibody response against polyethylene terephthalate with inflammatory serum cytokine profile following implantation of differently coated vascular prostheses in a rat animal model. [J Biomed Mater Res A. 110 \(1\): 52-63.](#)
 21. Martin, A. *et al.* (2018) Tumor-derived granzyme B-expressing neutrophils acquire antitumor potential after lipid A treatment. [Oncotarget. 9 \(47\): 28364-78.](#)
 22. Onaru, K. *et al.* (2020) Immunotoxicity evaluation by subchronic oral administration of clothianidin in Sprague-Dawley rats. [J Vet Med Sci. 82 \(3\): 360-72.](#)
 23. Midavaine, É. *et al.* (2024) Discovery of a CCR2-targeting pepducin therapy for chronic pain. [Pharmacol Res. : 107242.](#)
 24. Jörns, A. *et al.* (2020) Translation of curative therapy concepts with T cell and cytokine antibody combinations for type 1 diabetes reversal in the IDDM rat. [J Mol Med \(Berl\). 98 \(8\): 1125-37.](#)

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/MCA453G 10040
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
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
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight®488 , DyLight®550 , DyLight®650 , 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
----------------------------------	---	------------------	---	---------------	---

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)

'M384049:210513'

Printed on 15 Apr 2025