

## Datasheet: MCA453EL

**BATCH NUMBER 1709**

<b>Description:</b>	MOUSE ANTI RAT TCR ALPHA/BETA:Low Endotoxin
<b>Specificity:</b>	TCR ALPHA/BETA
<b>Format:</b>	Low Endotoxin
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	R73
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	0.5 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](http://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			▪	
Functional Assays	▪			

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>	Rat
<b>Species Cross Reactivity</b>	<p>Reacts with: Monkey, Cynomolgus monkey</p> <p><b>N.B.</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>
<b>Product Form</b>	Purified IgG - liquid
<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 Stabilisers</b>	None present
---------------------------------	--------------

---

<b>Carrier Free</b>	Yes
---------------------	-----

---

<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
---------------------------------------	-----------------------------

---

<b>Immunogen</b>	Rat T blasts and erythrocytes.
------------------	--------------------------------

---

<b>RRID</b>	AB_322435
-------------	-----------

---

<b>Fusion Partners</b>	Spleen cells from immunized BALB/c mice were fused with cells of the X63.Ag8.653 mouse myeloma cell line.
------------------------	---

---

<b>Specificity</b>	<p><b>Mouse anti Rat TCR alpha/beta antibody, clone R73</b> 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 (<a href="#">Colic et al. 2010</a>).</p>
--------------------	---

---

<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 100ul of whole blood or 10 <sup>6</sup> cells in 100ul.
-----------------------	---

---

<b>References</b>	<ol style="list-style-type: none"><li>1. 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. <a href="#">Int Immunol. 6 (7): 955-61.</a></li><li>2. Colić, M. <i>et al.</i> (1996) Mechanisms involved in the binding of thymocytes to rat thymic dendritic cells. <a href="#">Dev Immunol. 5 (1): 37-51.</a></li><li>3. Kanellis, J. <i>et al.</i> (2010) JNK signalling in human and experimental renal ischaemia/reperfusion injury. <a href="#">Nephrol Dial Transplant. 25: 2898-908.</a></li><li>4. 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. <a href="#">Endocrinology. 149: 3370-8.</a></li><li>5. 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. <a href="#">Immunology. 81 (3): 420-7.</a></li><li>6. 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. <a href="#">Immunology. 81 (1): 1-7.</a></li></ol>
-------------------	--

7. Pilipović, I. *et al.* (2010) Glucocorticoids, master modulators of the thymic catecholaminergic system? [Braz J Med Biol Res. 43 \(3\): 279-84.](#)
8. Milicevic, N.M. *et al.* (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- $\epsilon$ -caprolactone) networks. [Macromol Biosci. 13 \(5\): 573-83.](#)
14. Jörns, A. *et al.* (2015) TNF- $\alpha$  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  $\beta$  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.

25. Sáez-Fuertes, L. *et al.* (2024) Impact of maternal *Bifidobacterium breve* M-16V and scGOS/lcFOS supplementation during pregnancy and lactation on the maternal immune system and milk composition. [Front Immunol. 15: 1418594.](#)

---

**Storage**

Store at -20° only.

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.

---

**Guarantee**

12 months from date of despatch

---

**Health And Safety Information**

Material Safety Datasheet documentation #10162 available at: <https://www.bio-rad-antibodies.com/SDS/MCA453EL>

---

**Regulatory**

For research purposes only

---

## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</a>
Goat Anti Mouse IgG (STAR77...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</a>
Rabbit Anti Mouse IgG (STAR13...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR9...)	<a href="#">FITC</a>
Goat Anti Mouse IgG (Fc) (STAR120...)	<a href="#">FITC</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG (H/L) (STAR117...)	<a href="#">Alk. Phos.</a> , <a href="#">DyLight®488</a> , <a href="#">DyLight®550</a> , <a href="#">DyLight®650</a> , <a href="#">DyLight®680</a> , <a href="#">DyLight®800</a> , <a href="#">FITC</a> , <a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Low Endotoxin \(MCA1209EL\)](#)

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

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](http://bio-rad-antibodies.com/datasheets)  
'M367706:200529'

Printed on 02 Jul 2026