

## Datasheet: MCA453F

**BATCH NUMBER 155275**

<b>Description:</b>	MOUSE ANTI RAT TCR ALPHA/BETA:FITC
<b>Specificity:</b>	TCR ALPHA/BETA
<b>Format:</b>	FITC
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	R73
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	0.1 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](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat - 1/5

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

Reacts with: Monkey, Cynomolgus monkey

**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.

### Product Form

Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid

### Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
FITC	490	525

### Preparation

Purified IgG prepared by affinity chromatography on Protein G

### Buffer Solution

Phosphate buffered saline

<b>Preservative Stabilisers</b>	0.09% Sodium Azide 1% Bovine Serum Albumin
<b>Approx. Protein Concentrations</b>	IgG concentration 0.1 mg/ml
<b>Immunogen</b>	Rat T Blasts and Erythrocytes.
<b>RRID</b>	AB_322439
<b>Fusion Partners</b>	Spleen cells from immunised 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 10 <sup>6</sup> lymphocytes in 100ul.
<b>References</b>	<ol style="list-style-type: none"> <li>Hünig, T. <i>et al.</i> (1989) A monoclonal antibody to a constant determinant of the rat T cell antigen receptor that induces T cell activation. Differential reactivity with subsets of immature and mature T lymphocytes. <a href="#">J Exp Med. 169 (1): 73-86.</a></li> <li>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>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>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>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>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>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> <li>Pilipović, I. <i>et al.</i> (2010) Glucocorticoids, master modulators of the thymic catecholaminergic system? <a href="#">Braz J Med Biol Res. 43 (3): 279-84.</a></li> <li>Milicevic, N.M. <i>et al.</i> (2005) T cells are required for the peripheral phase of B-cell</li> </ol>

- maturation. [Immunology. 116: 308-17.](#)
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11. 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.](#)
12. 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.](#)
13. 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.](#)
14. Bat, E. *et al.* (2013) Physical properties and erosion behavior of poly(trimethylene carbonate-co- $\epsilon$ -caprolactone) networks. [Macromol Biosci. 13 \(5\): 573-83.](#)
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16. 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.](#)
17. 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.](#)

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**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. This product is photosensitive and should be protected from light.

Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

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**Guarantee**

12 months from date of despatch

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**Health And Safety Information**

Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA453F>  
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**Regulatory**

For research purposes only

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## Related Products

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:FITC \(MCA1209F\)](#)

**North & South** Tel: +1 800 265 7376

**Worldwide**

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batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://bio-rad-antibodies.com/datasheets)

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