Datasheet: MCA453F

Description:	MOUSE ANTI RAT TCR ALPHA/BETA:FITC
Specificity:	TCR ALPHA/BETA
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	R73
Isotype:	IgG1
Quantity:	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.

	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.

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 ion exchange chromatography

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.09% Sodium Azide
1% Bovine Serum Albumin

Approx. Protein Concentrations

IgG concentration 0.1 mg/ml

Immunogen

Rat T Blasts and Erythrocytes.

Fusion Partners

Spleen cells from immunised BALB/c mice were fused with cells of the X63.Ag8.653 mouse myeloma cell line.

Specificity

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.

Mouse anti Rat TCR alpha/beta antibody, clone R73 is reported to stimulate adhesion between Thymic Dendritic Cells and Thymocytes (Colic *et al.* 2010).

Flow Cytometry

Use 10ul of the suggested working dilution to label 10^6 lymphocytes in 100ul.

References

1. Hünig, T. *et al.* (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. J Exp Med. 169 (1): 73-86.
2. Tomida, S. *et al.* (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 Listeria monocytogenes in rats. Int Immunol. 6 (7): 955-61.
3. Colić, M. *et al.* (1996) Mechanisms involved in the binding of thymocytes to rat thymic dendritic cells. Dev Immunol. 5 (1): 37-51.
4. Kanellis, J. *et al.* (2010) JNK signalling in human and experimental renal ischaemia/reperfusion injury. Nephrol Dial Transplant. 25: 2898-908.
5. Nave, H. *et al.* (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.
6. Tsuchida, M. *et al.* (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.
7. Matsumoto, Y. *et al.* (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.
8. Pilipović, I. *et al.* (2010) Glucocorticoids, master modulators of the thymic catecholaminergic system? Braz J Med Biol Res. 43 (3): 279-84.
9. Milicevic, N.M. *et al.* (2005) T cells are required for the peripheral phase of B-cell maturation. Immunology. 116: 308-17.
10. Kenny, E. *et al.* (2000) Phenotypic analysis of peripheral CD4+ CD8+ T cells in the rat. Immunology. 101: 178-84.
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-ε-caprolactone) networks. Macromol Biosci. 13 (5): 573-83.
15. 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.
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 β cell regeneration in the LEW.1AR1-iddm rat model of type 1 diabetes. J Mol

	Med (Berl). 92 (7): 743-55.
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.
Shelf Life	18 months from date of despatch.
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:FITC (MCA1209F)

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

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