Datasheet: MCA47FTT

BATCH NUMBER 155311

Description:	MOUSE ANTI RAT CD90:FITC
Specificity:	CD90
Other names:	THY1
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	OX-7
Isotype:	IgG1
Quantity:	25 µg

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 - 1/10

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: Rabbit, Mouse, Guinea Pig

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 from tissue culture supernatant

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 Thy1 antigen.
External Database Links	**UniProt:** P01830 Related reagents **Entrez Gene:** 24832 Thy1 Related reagents
Synonyms	Thy-1
RRID	AB_1102448
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the mouse NS1 myeloma cell line.
Specificity	**Mouse anti Rat CD90 antibody, clone OX-7** recognizes rat and CD90, also known as Thy1.1, a GPI-anchored membrane protein containing a single V type Ig-like domain CD90 is expressed on a variety of cell types including thymocytes, neuronal cells, stem cells, immature B cells and connective tissues, CD90 is also expressed in T cells in mice. Since Thy1.1 is a monomorphic determinant in rat but polymorphic in mice, clone MRC OX-7 reacts with Thy1.1 mice e.g. AKR and FVB, but not Thy1.2 mice such as CBA and BALB/c. The affinity of the Fab′ of MRC OX-7 for rat Thy1 is 3 x 10^9m-^{1} and for mouse Thy1.1 is 3 x 10^8m-^{1}(1). Mouse anti rat CD90, clone MRC OX-7 has been demonstrated to promote neurite outgrowths on peripherin-stained sympathetic rat neurons, using fluorescence microscopy (Jeng *et al.* 1998). Clone OX-7 has also been reported to induce glomerular nephritis in Wistar rats (Tamura *et al.* 1996). This product is routinely tested in flow cytometry on rat thymocytes.
Flow Cytometry	Use 10ul of the suggested working dilution to label 10^6 cells in 100ul.
References	1. Mason, D.W. & Williams, A.F. (1980) The kinetics of antibody binding to membrane antigens in solution and at the cell surface. Biochem J. 187 (1): 1-20. 2. Campbell, D.G. *et al.* (1981) Rat brain Thy-1 glycoprotein. The amino acid sequence, disulphide bonds and an unusual hydrophobic region. Biochem J. 195 (1): 15-30. 3. Bukovský, A. *et al.* (1983) The localization of Thy-1.1, MRC OX 2 and Ia antigens in the

rat ovary and fallopian tube. Immunology. 48 (3): 587-96.
4. Lee, W.S. *et al.* (1998) Thy-1, a novel marker for angiogenesis upregulated by inflammatory cytokines. Circ Res. 82 (8): 845-51.
5. Jeng, C.J. *et al.* (1998) Thy-1 is a component common to multiple populations of synaptic vesicles. J Cell Biol. 140 (3): 685-98.
6. Banerjee, S.A. *et al.* (1997) An antibody to the tetraspan membrane protein CD9 promotes neurite formation in a partially alpha3beta1 integrin-dependent manner. J Neurosci. 17 (8): 2756-65.
7. Kawachi, H. *et al.* (1992) Epitope-specific induction of mesangial lesions with proteinuria by a MoAb against mesangial cell surface antigen. Clin Exp Immunol. 88 (3): 399-404.
8. Tamura, M. *et al.* (1996) Enhanced glomerular profilin gene and protein expression in experimental mesangial proliferative glomerulonephritis. Biochem Biophys Res Commun. 222 (3): 683-7.
9. Stevenson, K.S. *et al.* (2009) Isolation, characterization, and differentiation of thy1.1-sorted pancreatic adult progenitor cell populations. Stem Cells Dev. 18 (10): 1389-98.
10. Biermann, J. *et al.* (2011) Histone deacetylase inhibitors sodium butyrate and valproic acid delay spontaneous cell death in purified rat retinal ganglion cells. Mol Vis. 17: 395-403.
11. Keller, R.K. *et al.* (2004) Formation of 7-dehydrocholesterol-containing membrane rafts *in vitro* and *in vivo*, with relevance to the Smith-Lemli-Opitz syndrome. J Lipid Res. 45: 347-55.
12. Ohashi, N. *et al.* (2010) Glomerular angiotensinogen is induced in mesangial cells in diabetic rats via reactive oxygen species--ERK/JNK pathways. Hypertens Res. 33:1174-81.
13. Maia L *et al.* (2016) Conditioned medium: A new alternative for cryopreservation of equine umbilical cord mesenchymal stem cells. Cell Biol Int. Nov 26. [Epub ahead of print]
14. Rutigliano, J.A. *et al.* (2008) Screening monoclonal antibodies for cross-reactivity in the ferret model of influenza infection. J Immunol Methods. 336: 71-7.
15. Freisinger, W. *et al.* (2013) Sensory renal innervation: a kidney-specific firing activity due to a unique expression pattern of voltage-gated sodium channels? Am J Physiol Renal Physiol. 304: F491-7.
16. Shimizu T *et al.* (2016) Bioactivity of sol-gel-derived TiO2 coating on polyetheretherketone: *In vitro* and *in vivo* studies. Acta Biomater. 35: 305-17.
17. Maia, L. *et al.* (2017) A proteomic study of mesenchymal stem cells from equine umbilical cord. Theriogenology. 100: 8-15.
18. Chang, J.C. *et al.* (2019) Early Immune Response to Acute Gastric Fluid Aspiration in a Rat Model of Lung Transplantation. Exp Clin Transplant. 17 (1): 84-92.
19. Huang, X. *et al.* (2019) MRI Tracking of SPIO- and *Fth1*-Labeled Bone Marrow Mesenchymal Stromal Cell Transplantation for Treatment of Stroke. Contrast Media Mol Imaging. 2019: 5184105.
20. Zhao, Y. *et al.* (2017) A new electrospun graphene-silk fibroin composite scaffolds for guiding Schwann cells. J Biomater Sci Polym Ed. 28 (18): 2171-85.

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.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA47FTT 10041
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

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

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