

Datasheet: MCA47G

Description:	MOUSE ANTI RAT CD90
Specificity:	CD90
Other names:	THY1
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	OX-7
Isotype:	IgG1
Quantity:	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	▪			1/50 - 1/100
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting	▪			
Immunofluorescence	▪			

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: Rabbit, Mouse, Guinea Pig</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 A 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 Thy1 antigen.
External Database Links	UniProt: P01830 Related reagents Entrez Gene: 24832 Thy1 Related reagents
Synonyms	Thy-1
RRID	AB_321889
Fusion Partners	Spleen cells from immunized BALB/c mice were fused with cells of the mouse NS1 myeloma cell line.
Specificity	<p>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.</p> <p>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 $3 \times 10^9 \text{m}^{-1}$ and for mouse Thy1.1 is $3 \times 10^8 \text{m}^{-1}$ (1).</p> <p>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).</p> <p>This product is routinely tested in flow cytometry on rat thymocytes.</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10^6 cells in 100ul.
References	1. Campbell, D.G. <i>et al.</i> (1981) Rat brain Thy-1 glycoprotein. The amino acid sequence, disulphide bonds and an unusual hydrophobic region. Biochem J. 195 (1): 15-30.

2. 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.](#)
3. 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.](#)
4. 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.](#)
5. 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.](#)
6. Lee, W.S. *et al.* (1998) Thy-1, a novel marker for angiogenesis upregulated by inflammatory cytokines. [Circ Res. 82 \(8\): 845-51.](#)
7. 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.](#)
8. 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.](#)
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. 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.](#)
11. 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.](#)
12. 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.](#)
13. 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.](#)
14. Maia, L. *et al.* (2017) Conditioned medium: a new alternative for cryopreservation of equine umbilical cord mesenchymal stem cells. [Cell Biol Int. 41 \(3\): 239-48.](#)
15. Maia, L. *et al.* (2017) A proteomic study of mesenchymal stem cells from equine umbilical cord. [Theriogenology. 100: 8-15.](#)
16. 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.](#)
17. 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.](#)
18. 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.](#)
19. Kuriyama, T. *et al.* (2020) A novel rat model of inflammatory bowel disease developed using a device created with a 3D printer. [Regen Ther. 14: 1-10.](#)
20. Cakała-Jakimowicz, M. & Puzianowska-Kuznicka, M. (2022) Towards Understanding the Lymph Node Response to Skin Infection with Saprophytic *Staphylococcus epidermidis*. [Biomedicines. 10 \(5\): 1021.](#)

21. Huang, S. *et al.* (2022) Hydrogen sulfide supplement preserves mitochondrial function of retinal ganglion cell in a rat glaucoma model. [Cell Tissue Res. 389 \(2\): 171-85.](#)
22. Cacciamali, A. *et al.* (2022) Engineered nanoparticles toxicity on adipose tissue derived mesenchymal stem cells: A preliminary investigation [Res Vet Sci. 152: 134-49.](#)
23. Eweida, A. *et al.* (2022) Systemically injected bone marrow mononuclear cells specifically home to axially vascularized tissue engineering constructs. [PLoS One. 17 \(8\): e0272697.](#)
24. Ichinohe, N. *et al.* (2023) CINC-2 and miR-199a-5p in EVs secreted by transplanted Thy1(+) cells activate hepatocytic progenitor cell growth in rat liver regeneration. [Stem Cell Res Ther. 14 \(1\): 134.](#)
25. Numata-Uematsu, Y. *et al.* (2023) *In vitro* myelination using explant culture of dorsal root ganglia: An efficient tool for analyzing peripheral nerve differentiation and disease modeling. [PLoS One. 18 \(5\): e0285897.](#)

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/MCA47G10040
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

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

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

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