

## Datasheet: MCA47GA

**BATCH NUMBER 151259**

<b>Description:</b>	MOUSE ANTI RAT CD90
<b>Specificity:</b>	CD90
<b>Other names:</b>	THY1
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	OX-7
<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	▪			1/50 - 1/100
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
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.

<b>Target Species</b>	Rat
<b>Species Cross Reactivity</b>	<p>Reacts with: Rabbit, Mouse, Guinea Pig</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 A from tissue culture

supernatant

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**Buffer Solution** Phosphate buffered saline

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**Preservative Stabilisers** 0.09% Sodium Azide

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**Carrier Free** Yes

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**Approx. Protein Concentrations** IgG concentration 1.0 mg/ml

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**Immunogen** Rat Thy1 antigen.

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**External Database Links**

**UniProt:**  
[P01830](#) [Related reagents](#)

**Entrez Gene:**  
[24832](#) Thy1 [Related reagents](#)

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**Synonyms** Thy-1

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**RRID** AB\_566922

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**Fusion Partners** Spleen cells from immunised BALB/c mice were fused with cells of the mouse NS1 myeloma cell line.

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**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  $3 \times 10^9 \text{m}^{-1}$  and for mouse Thy1.1 is  $3 \times 10^8 \text{m}^{-1}$ (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.

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**Flow Cytometry** Use 10ul of the suggested working dilution to label  $10^6$  cells in 100ul.

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**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 TiO<sub>2</sub> 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. 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 #10040 available at:  
10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

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**Regulatory** For research purposes only

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## Related Products

### Recommended Secondary Antibodies

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

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA1209\)](#)

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

**America** Fax: +1 919 878 3751

Email: [antibody\\_sales\\_us@bio-rad.com](mailto:antibody_sales_us@bio-rad.com)

**Worldwide**

Tel: +44 (0)1865 852 700

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

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