

Datasheet: MCA47R

| | |
|----------------------|---------------------|
| Description: | MOUSE ANTI RAT CD90 |
| Specificity: | CD90 |
| Other names: | THY1 |
| Format: | Purified |
| Product Type: | Monoclonal Antibody |
| Clone: | OX-7 |
| Isotype: | IgG1 |
| Quantity: | 0.25 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_321890 |
| 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 | <p>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.</p> <p>Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.</p> |
| Guarantee | 12 months from date of despatch |
| Health And Safety Information | <p>Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA47R</p> <p>10040</p> |
| 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 |
|----------------------------------|---|------------------|---|---------------|---|------------------|

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

'M384239:210513'

Printed on 21 Feb 2024

© 2024 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)