

Datasheet: MCA970GA

Description:	MOUSE ANTI RAT RECA-1
Specificity:	RECA-1
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	HIS52
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			■	
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. The suggested working dilution is 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	Does not react with:Goat, Chicken, Guinea Pig, Sheep, Mouse, Rabbit, Pig
Product Form	Purified IgG - liquid
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
Approx. Protein Concentrations	IgG concentration 0.5 mg/ml
Immunogen	Stromal cells from rat lymph node.

Fusion Partners	Spleen cells from immunised mice were fused with cells of the SP2/0 mouse myeloma cell line.
Specificity	Mouse anti Rat RECA-1 antibody, clone HIS52 recognizes RECA-1, a cell surface antigen which is expressed by all rat endothelial cells. The endothelium is the thin layer of cells that line the interior surface of blood vessels, forming an interface between circulating blood in the lumen and the rest of the vessel wall. Endothelial cells line the entire circulatory system, from the heart to the smallest capillary.
References	1. Duijvestijn, A.M. <i>et al.</i> (1992) Antibodies defining rat endothelial cells: RECA-1, a pan-endothelial cell-specific monoclonal antibody. Lab Invest. 66 (4): 459-66. 2. Konno, T. <i>et al.</i> (2007) Pregnancy in the brown Norway rat: a model for investigating the genetics of placentation. Biol Reprod. 76 (4): 709-18. 3. Alam, S.M. <i>et al.</i> (2008) Decidual cells produce a heparin-binding prolactin family cytokine with putative intrauterine regulatory actions. J Biol Chem. 283 (27): 18957-68. 4. Benton RL <i>et al.</i> (2009) Transcriptional activation of endothelial cells by TGFβ coincides with acute microvascular plasticity following focal spinal cord ischaemia/reperfusion injury. ASN Neuro. 1 (3): pii: e00015. 5. Androutsellis-Theotokis, A. <i>et al.</i> (2010) Angiogenic factors stimulate growth of adult neural stem cells. PLoS One. 5 (2): e9414. 6. Schödel, J. <i>et al.</i> (2010) Factor inhibiting HIF limits the expression of hypoxia-inducible genes in podocytes and distal tubular cells. Kidney Int. 78 (9): 857-67. 7. March, S. <i>et al.</i> (2009) Microenvironmental regulation of the sinusoidal endothelial cell phenotype <i>in vitro</i>. Hepatology. 50: 920-8. 8. Szmydynger-Chodobska, J. <i>et al.</i> (2011) Multiple sites of vasopressin synthesis in the injured brain. J Cereb Blood Flow Metab. 31: 47-51. 9. Bexell, D. <i>et al.</i> (2009) Bone marrow multipotent mesenchymal stroma cells act as pericyte-like migratory vehicles in experimental gliomas. Mol Ther. 17: 183-90. 10. Valable, S. <i>et al.</i> (2009) MRI assessment of hemodynamic effects of angiopoietin-2 overexpression in a brain tumor model. Neuro Oncol. 11: 488-502. 11. Hamdi, H. <i>et al.</i> (2011) Epicardial adipose stem cell sheets results in greater post-infarction survival than intramyocardial injections. Cardiovasc Res. 91 (3): 483-91. 12. Morin-Brureau, M. <i>et al.</i> (2011) Epileptiform activity induces vascular remodeling and zonula occludens 1 downregulation in organotypic hippocampal cultures: role of VEGF signaling pathways. J Neurosci. 31: 10677-88 13. Hawthorne, A.L. <i>et al.</i> (2011) The unusual response of serotonergic neurons after CNS Injury: lack of axonal dieback and enhanced sprouting within the inhibitory environment of the glial scar. J Neurosci. 31: 5605-16. 14. Jantaratai, N. <i>et al.</i> (2011) Comparison of Vascular Perturbations in an Aβ-Injected Animal Model and in AD Brain. Int J Alzheimers Dis. 2011: 918280. 15. Cattaruzza, F. <i>et al.</i> (2009) Endothelin-converting enzyme 1 promotes re-sensitization of neurokinin 1 receptor-dependent neurogenic inflammation. Br J Pharmacol. 156: 730-9. 16. Valable, S. <i>et al.</i> (2009) MRI assessment of hemodynamic effects of angiopoietin-2 overexpression in a brain tumor model. Neuro Oncol. 11: 488-502. 17. Miya, M. <i>et al.</i> (2012) Age-related decline in label-retaining tubular cells: implication for reduced regenerative capacity after injury in the aging kidney. Am J Physiol Renal Physiol. 302: F694-702. 18. Blondiaux, E. <i>et al.</i> (2013) Evaluation of Rat Heart Microvasculature with High-Spatial-Resolution Susceptibility-weighted MR Imaging. Radiology. 269: 277-82. 19. Mitkari, B. <i>et al.</i> (2014) Human bone marrow mesenchymal stem/stromal cells produce efficient localization in the brain and enhanced angiogenesis after intra-arterial delivery in rats with cerebral ischemia, but this is not translated to behavioral recovery. Behav Brain Res. 259: 50-9. 20. Valiente-Soriano, F.J. <i>et al.</i> (2015) BDNF rescues RGCs but not ipRGCs in ocular hypertensive albino rat retinas. Invest Ophthalmol Vis Sci. pii: IOVS-15-16454. 21. Cantaluppi V <i>et al.</i> (2015) Endothelial progenitor cell-derived extracellular vesicles protect from

complement-mediated mesangial injury in experimental anti-Thy1.1 glomerulonephritis. [Nephrol Dial Transplant. 30 \(3\): 410-22.](#)

22. Imberti, B. *et al.* (2015) Renal Primordia Activate Kidney Regenerative Events in a Rat Model of Progressive Renal Disease. [PLoS One. 10 \(3\): e0120235.](#)

23. Zhang, W. *et al.* (2016) Omega-3 polyunsaturated fatty acids mitigate blood-brain barrier disruption after hypoxic-ischemic brain injury. [Neurobiol Dis. 91: 37-46.](#)

24. Wada, Y. *et al.* (2002) Impairment of vascular regeneration precedes progressive glomerulosclerosis in anti-Thy 1 glomerulonephritis. [Kidney Int. 61 \(2\): 432-43.](#)

25. Wong, K-H. *et al.* (2015) Restoration of sensory dysfunction following peripheral nerve injury by the polysaccharide from culinary and medicinal mushroom, *Hericium erinaceus* (Bull.: Fr.) Pers. through its neuroregenerative action [Food Science and Technology \(Campinas\). 35 \(4\): 712-21.](#)

26. Syrjälä, S.O. *et al.* (2015) Donor Heart Treatment With COMP-Ang1 Limits Ischemia-Reperfusion Injury and Rejection of Cardiac Allografts. [Am J Transplant. 15 \(8\): 2075-84.](#)

27. Matsushita T *et al.* (2015) Diffuse and persistent blood-spinal cord barrier disruption after contusive spinal cord injury rapidly recovers following intravenous infusion of bone marrow mesenchymal stem cells. [Exp Neurol. 267: 152-64.](#)

28. Wang, L. *et al.* (2015) Lobe-specific expression of phosphodiesterase 5 in rat prostate. [Urology. 85 \(3\): 703.e7-13.](#)

29. Van Slooten, A.R. *et al.* (2015) L-NIO as a novel mechanism for inducing focal cerebral ischemia in the adult rat brain. [J Neurosci Methods. 245: 44-57.](#)

30. Nakahara, T. *et al.* (2015) Structural and functional changes in retinal vasculature induced by retinal ischemia-reperfusion in rats. [Exp Eye Res. 135: 134-45.](#)

31. Ramessur Chandran, S. *et al.* (2015) Spleen tyrosine kinase contributes to acute renal allograft rejection in the rat. [Int J Exp Pathol. 96 \(1\): 54-62.](#)

32. Alves-Sampaio, A. *et al.* (2016) Biofunctionalized PEDOT-coated microfibers for the treatment of spinal cord injury. [Biomaterials. 89: 98-113.](#)

33. Wang, J. *et al.* (2016) Nafamostat mesilate protects against acute cerebral ischemia via blood-brain barrier protection. [Neuropharmacology. 105: 398-410.](#)

34. Takahashi Y *et al.* (2016) Rituximab protects podocytes and exerts anti-proteinuric effects in rat adriamycin-induced nephropathy independent of B-lymphocytes. [Nephrology \(Carlton\). Feb 2. \[Epub ahead of print\]](#)

35. Cutiongco, M.F. *et al.* (2016) Planar and tubular patterning of micro and nano-topographies on poly(vinyl alcohol) hydrogel for improved endothelial cell responses. [Biomaterials. 84: 184-95.](#)

36. Nozawa-Inoue, K. *et al.* (2016) Contribution of synovial lining cells to synovial vascularization of the rat temporomandibular joint. [J Anat. 228 \(3\): 520-9.](#)

37. Nakano, A. *et al.* (2016) Short-term treatment with VEGF receptor inhibitors induces retinopathy of prematurity-like abnormal vascular growth in neonatal rats. [Exp Eye Res. 143: 120-31.](#)

38. Garbelli, R. *et al.* (2015) PDGFR β (+) cells in human and experimental neuro-vascular dysplasia and seizures. [Neuroscience. 306: 18-27.](#)

39. Walker, C.L. *et al.* (2015) Biphasic bisperoxovanadium administration and Schwann cell transplantation for repair after cervical contusive spinal cord injury. [Exp Neurol. 264: 163-72.](#)

40. Wakamatsu, A. *et al.* (2016) Role of calcineurin (CN) in kidney glomerular podocyte: CN inhibitor ameliorated proteinuria by inhibiting the redistribution of CN at the slit diaphragm. [Physiol Rep. 4 \(6\): pii: e12679.](#)

41. Holmström, E.J. *et al.* (2016) Simvastatin Treatment Upregulates Anti-Fibrotic Bone Morphogenetic Protein-7 Expression at Rat Cardiac Allograft Rejection. [Pharmacology. 98 \(5-6\): 204-208.](#)

42. Liberini Claudia G. *et al.* (2016) The satiating hormone amylin enhances neurogenesis in the area postrema of adult rats [Molecular Metabolism. Jul 5 \[Epub ahead of print\]](#)

43. Badner A *et al.* (2016) Early Intravenous Delivery of Human Brain Stromal Cells Modulates Systemic Inflammation and Leads to Vasoprotection in Traumatic Spinal Cord Injury. [Stem Cells Transl Med. 5 \(8\): 991-1003.](#)

44. Hartner, A. *et al.* (2016) Impaired Neovascularization and Reduced Capillary Supply in the

Malignant vs. Non-malignant Course of Experimental Renovascular Hypertension [Frontiers in Physiology. 7: 730.](#)

45. Szymdynger-Chodobska, J. *et al.* (2016) The Involvement of Pial Microvessels in Leukocyte Invasion after Mild Traumatic Brain Injury. [PLoS One. 11 \(12\): e0167677.](#)

46. Morita, T. *et al.* (2016) Intravenous infusion of mesenchymal stem cells promotes functional recovery in a model of chronic spinal cord injury. [Neuroscience. 335: 221-31.](#)

47. Takahashi, T. *et al.* (2017) Methylmercury Causes Blood-Brain Barrier Damage in Rats via Upregulation of Vascular Endothelial Growth Factor Expression. [PLoS One. 12 \(1\): e0170623.](#)

48. Raissadati, A. *et al.* (2017) Vascular Endothelial Growth Factor-B Overexpressing Hearts Are Not Protected From Transplant-Associated Ischemia-Reperfusion Injury. [Exp Clin Transplant. 15 \(2\): 203-12.](#)

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.

Shelf Life

18 months from date of despatch.

Health And Safety Information

Material Safety Datasheet documentation #10040 available at: 10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

Regulatory

For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR76...) [RPE](#)
Goat Anti Mouse IgG IgA IgM (STAR87...) [Alk. Phos.](#), [HRP](#)
Rabbit Anti Mouse IgG (STAR9...) [FITC](#)
Goat Anti Mouse IgG (STAR77...) [HRP](#)
Rabbit Anti Mouse IgG (STAR12...) [RPE](#)
Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)
Rabbit Anti Mouse IgG (STAR8...) [DyLight®800](#)
Goat Anti Mouse IgG (STAR70...) [FITC](#)
Rabbit Anti Mouse IgG (STAR13...) [HRP](#)
Human Anti Mouse IgG1 (HCA036...) [HRP](#)
Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight®488](#), [DyLight®549](#),
[DyLight®649](#), [DyLight®680](#), [DyLight®800](#),
[FITC](#), [HRP](#)

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

'M318690:180718'

