

## Datasheet: MCA1321GA

**BATCH NUMBER 180308**

<b>Description:</b>	MOUSE ANTI RAT NEUROFILAMENT 200kDa
<b>Specificity:</b>	NEUROFILAMENT H 200kDa
<b>Other names:</b>	NEUROFILAMENT HEAVY POLYPEPTIDE
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	RT97
<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			▪	
Immunohistology - Frozen	▪			
Immunohistology - Paraffin	▪			1/50 - 1/100
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting			▪	

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. 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: Human, Chicken, Pig, Mouse

Based on sequence similarity, is expected to react with: Reptile

**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 - liquid

#### Preparation

Purified IgG prepared by hydrophobic interaction chromatography from tissue culture

supernatant

---

**Buffer Solution** Phosphate buffered saline

---

**Preservative** 0.1% Sodium Azide (NaN<sub>3</sub>)  
**Stabilisers** 0.1% Bovine Serum Albumin

---

**Approx. Protein Concentrations** IgG concentration 0.1 mg/ml

---

**Immunogen** Triton X-100-insoluble rat brain protein.

---

**External Database Links**

**UniProt:**

[P16884](#) [Related reagents](#)

**Entrez Gene:**

[24587](#) Nefh [Related reagents](#)

---

**Synonyms** Nfh

---

**RRID** AB\_1102789

---

**Specificity** **Mouse anti Rat Neurofilament 200kDa antibody, clone RT97** recognizes the 200kDa neurofilament protein in a range of species. Mouse anti Rat Neurofilament 200kDa antibody, clone RT97 stains various tumors including pheochromocytoma, paraganglioma and ganglioneuroblastoma.

Mouse anti Rat Neurofilament 200kDa antibody, clone RT97 also recognizes a phosphorylation dependent epitope on fetal tau, Alzheimer's paired helical filament-tau and on microtubule associated protein 1B (MAP1B) by western blotting, however similar reactivity was not apparent in immunohistochemical studies ([Johnstone et al. 1997](#)).

---

**Immunohistology** This product does not require protein digestion pre-treatment of paraffin sections. This product does not require antigen retrieval using heat treatment prior to staining of paraffin sections.

---

**Histology Positive Control Tissue** Brain or spinal cord

---

**References**

1. Weber, K. *et al.* (1983) Neurofilaments, a subclass of intermediate filaments: structure and expression. [Cold Spring Harb Symp Quant Biol. 48 Pt 2: 717-29.](#)
2. Anderton, B.H. *et al.* (1982) Monoclonal antibodies show that neurofibrillary tangles and neurofilaments share antigenic determinants. [Nature. 298 \(5869\): 84-6.](#)
3. Johnstone, M. *et al.* (1997) The neurofilament antibody RT97 recognises a developmentally regulated phosphorylation epitope on microtubule-associated protein 1B. [J Anat. 191 \( Pt 2\): 229-44.](#)
4. Tonge, D.A. *et al.* (1996) Expression of a developmentally regulated, phosphorylated isoform of microtubule-associated protein 1B in sprouting and regenerating axons in vitro.

[Neuroscience. 73 \(2\): 541-51.](#)

5. Sann, H. *et al.* (1995) RT97: a marker for capsaicin-insensitive sensory endings in the rat skin. [Cell Tissue Res. 282 \(1\): 155-61.](#)
6. Veeranna, *et al.* (2008) Neurofilament tail phosphorylation: identity of the RT-97 phosphoepitope and regulation in neurons by cross-talk among proline-directed kinases. [J Neurochem. 2008 Oct;107\(1\): 35-49.](#)
7. Logan, A. *et al.* (2006) Neurotrophic factor synergy is required for neuronal survival and disinhibited axon regeneration after CNS injury. [Brain. 129: 490-502.](#)
8. Lorber, B. *et al.* (2004) Stimulated regeneration of the crushed adult rat optic nerve correlates with attenuated expression of the protein tyrosine phosphatases RPTPalpha, STEP, and LAR. [Mol Cell Neurosci. 27: 404-16.](#)
9. Reynolds, J. *et al.* (2005) Age-dependent changes in Fibroblast growth factor 2 (FGF-2) expression in mouse cerebellar neurons. [J Cell Mol Med. 9: 398-406.](#)
10. Shin, D.H. *et al.* (2003) The correspondence between the labeling patterns of antibody RT97, neurofilaments, microtubule associated protein 1B and tau varies with cell types and development stages of chicken retina. [Neurosci Lett. 342: 167-70.](#)
11. Connolly ,A.A. *et al.* (1987) A comparative study of a silver stain and monoclonal antibody reactions on Alzheimer's neurofibrillary tangles. [J Neurol Neurosurg Psychiatry. 50: 1221-4.](#)
12. Doering, L.C. (1991) Transplantation of fetal CNS tissue into the peripheral nervous system: a model to study aberrant changes in the neuronal cytoskeleton. [J Neural Transplant Plast. 2: 193-205.](#)
13. McCarthy, P.W. *et al.* (1992) RT97- and calcitonin gene-related peptide-like immunoreactivity in lumbar intervertebral discs and adjacent tissue from the rat. [J Anat. 180: 15-24.](#)
14. Murphy, A. *et al.* (1993) Neurofilament expression in human T lymphocytes. [Immunology. 79: 167-70.](#)
15. Yabe, J.T. *et al.* (2001) Neurofilaments consist of distinct populations that can be distinguished by C-terminal phosphorylation, bundling, and axonal transport rate in growing axonal neurites. [J Neurosci. 21: 2195-205.](#)
16. Wang, S. *et al.* (2000) Progressive optic axon dystrophy and vacuslar changes in rd mice. [Invest Ophthalmol Vis Sci. 41: 537-45.](#)
17. Kuwamura, M. *et al.* (2004) Cerebral ganglioneuroblastoma in a golden retriever dog. [Vet Pathol. 41: 282-4.](#)
18. Rovere, G. *et al.* (2015) Comparison of Retinal Nerve Fiber Layer Thinning and Retinal Ganglion Cell Loss After Optic Nerve Transection in Adult Albino Rats. [Invest Ophthalmol Vis Sci. 56 \(8\): 4487-98.](#)
19. Wang, J. *et al.* (2017) MicroRNA regulation in an animal model of acute ocular hypertension. [Acta Ophthalmol. 95 \(1\): e10-e21.](#)
20. Vidal-Sanz, M. *et al.* (2015) Retinal neurodegeneration in experimental glaucoma. [Prog Brain Res. 220: 1-35.](#)
21. Moutal, A. *et al.* (2020) Differential expression of Cdk5-phosphorylated CRMP2 following a spared nerve injury. [Mol Brain. 13 \(1\): 97.](#)

---

**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.

---

<b>Guarantee</b>	12 months from date of despatch
------------------	---------------------------------

---

<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10041 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA1321GA">https://www.bio-rad-antibodies.com/SDS/MCA1321GA</a> 10041
--------------------------------------	--

---

<b>Regulatory</b>	For research purposes only
-------------------	----------------------------

---

## Related Products

### Recommended Secondary Antibodies

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

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
----------------------------------	---	------------------	---	---------------	---

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://bio-rad-antibodies.com/datasheets)  
'M365134:200529'

Printed on 20 Jan 2025