

Datasheet: PMP04Z

BATCH NUMBER 166995

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| Description: | PURIFIED MOUSE NERVE GROWTH FACTOR 2.5S |
| Name: | NERVE GROWTH FACTOR 2.5S |
| Other names: | NGF BETA |
| Format: | Purified |
| Product Type: | Purified Protein |
| 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 |
|-------------------|-----|----|----------------|--------------------|
| Functional Assays | ■ | | | |

Where this product 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 product for use in their own system using appropriate negative/positive controls.

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| Target Species | Mouse |
| Species Cross Reactivity | <p>Reacts with: Rat</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 natural murine nerve growth factor - lyophilized |
| Reconstitution | Reconstitute with 1.0 ml distilled water. Care should be taken during reconstitution as the protein may appear as a film at the bottom of the vial. Bio-Rad recommend that the vial is gently mixed after reconstitution. |
| Preparation | Murine nerve growth factor is prepared from the submaxillary glands of mice by sephadex and subsequent cellulose chromatography (Bocchini and Angeletti 1969). |
| Buffer Solution | Phosphate buffered saline |

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|---------------------------------------|--|
| Preservative Stabilisers | None present |
| Approx. Protein Concentrations | 1.0mg/ml |
| External Database Links | <p>UniProt: P01139 Related reagents</p> <p>Entrez Gene: 18049 Ngf Related reagents</p> |
| Synonyms | Ngfb |
| Product Information | <p>Purified Mouse Nerve Growth Factor 2.5S is prepared from mouse submaxillary glands (Bocchini and Angeletti 1969) and has an apparent molecular mass of ~30 kDa. Nerve growth factor has a variety of effects on the growth and development of sensory and sympathetic neurons. In the peripheral nervous system, NGF is required for the development and maintenance of sympathetic nerve cells that use catecholamine neurotransmitters.</p> <p>Purified Mouse Nerve Growth Factor 2.5S has been used to demonstrate the importance of NGF in regulation of neuronal function through the up-regulation of the transcription factor NFAT (Nuclear Factor of Activated T-cells) via activation of the PI3K/Akt pathway (Kim <i>et al.</i> 2014).</p> |
| Protein Molecular Weight | Approximately 30 kDa |
| Purity | >98% by SDS PAGE |
| References | <ol style="list-style-type: none"> 1. Rohn, T.A. <i>et al.</i> (2011) A Virus-Like Particle-Based Anti-Nerve Growth Factor Vaccine Reduces Inflammatory Hyperalgesia: Potential Long-Term Therapy for Chronic Pain. J Immunol. 186: 1769-80. 2. Laursen, L.S. <i>et al.</i> (2011) Translation of myelin basic protein mRNA in oligodendrocytes is regulated by integrin activation and hnRNP-K. J Cell Biol. 192: 797-811. 3. Colbert, R.A. <i>et al.</i> (1994) Vasoactive intestinal peptide stimulates neuropeptide Y gene expression and causes neurite extension in PC12 cells through independent mechanisms. J Neurosci. 14: 7141-7. 4. Smith-Thomas, L.C. <i>et al.</i> (1995) Increased axon regeneration in astrocytes grown in the presence of proteoglycan synthesis inhibitors. J Cell Sci. 108: 1307-15. 5. Barrie, A.P. <i>et al.</i> (1997) Pituitary adenylyl cyclase-activating peptide stimulates extracellular signal-regulated kinase 1 or 2 (ERK1/2) activity in a Ras-independent, mitogen-activated protein Kinase/ERK kinase 1 or 2-dependent manner in PC12 cells. J Biol Chem. 272: 19666-71. 6. Liu, N. <i>et al.</i> (2005) Enhancement of Schwann cell myelin formation by K252a in the Trembler-J mouse dorsal root ganglion explant culture. J Neurosci Res. 79: 310-7. |

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12. Huang, J.K. *et al.* (2011) Retinoid X receptor gamma signaling accelerates CNS remyelination. [Nat Neurosci. 14 \(1\): 45-53.](#)
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14. Lager, A.M. *et al.* (2018) Rapid functional genetics of the oligodendrocyte lineage using pluripotent stem cells. [Nat Commun. 9 \(1\): 3708.](#)
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16. Borland, H. *et al.* (2022) α -synuclein buildup is alleviated via ESCRT-dependent endosomal degradation brought about by p38MAPK inhibition in cells expressing p25 α . [J Biol Chem. 298 \(11\): 102531.](#)
17. Holloway, R.K. *et al.* (2023) Localized microglia dysregulation impairs central nervous system myelination in development. [Acta Neuropathol Commun. 11 \(1\): 49.](#)
18. Bekku, Y. *et al.* (2024) Glia trigger endocytic clearance of axonal proteins to promote rodent myelination. [Dev Cell. S1534-5807\(24\)00028-5.](#)
19. Mahú, I. *et al.* (2020) Brain-Sparing Sympathofacilitators Mitigate Obesity without Adverse Cardiovascular Effects. [Cell Metab. 31 \(6\): 1120-1135.e7.](#)

Further Reading

1. Bocchini V & Angeletti PU (1969) The nerve growth factor: purification as a 30,000-molecular-weight protein. [Proc Natl Acad Sci U S A. 64 \(2\): 787-94.](#)

Storage

Prior to reconstitution store at +4°C. Following reconstitution store at -20°C.

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the protein. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee

3 months from date of reconstitution

Health And Safety Information

Material Safety Datasheet documentation #10302 available at: <https://www.bio-rad-antibodies.com/SDS/PMP04Z>
10302

Regulatory

For research purposes only

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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
'M345910:190125'

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