Datasheet: PMP04Z

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.

Target Species

Mouse

Species Cross Reactivity

Reacts with: Rat
N.B. Antibody reactivity and working conditions may vary between species.

Product Form

Purified natural murine nerve growth factor - lyophilised

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

Preservative Stabilisers

None present

Approx. Protein Concentrations

1.0mg/ml

External Database Links

UniProt:
P01139 Related reagents

	Entrez Gene: 18049 Ngf Related reagents
Synonyms	Ngfb
Product Information	**Purified Mouse Nerve Growth Factor 2.5S** is prepared form 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. 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 *et al.* 2014).
Protein Molecular Weight	Approximately 30kDa
Purity	>98% by SDS PAGE
References	1. Rohn, T.A. *et al.* (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. *et al.* (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. *et al.* (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. *et al.* (1995) Increased axon regeneration in astrocytes grown in the presence of proteoglycan synthesis inhibitors. J Cell Sci. 108: 1307-15. 5. Barrie, A.P. *et al.* (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. *et al.* (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. 7. Eibl, J.K. *et al.* (2010) Multipotent neurotrophin antagonist targets brain-derived neurotrophic factor and nerve growth factor. J Pharmacol Exp Ther. 332: 446-54. 8. Vogelezang, M. *et al.* (2007) Neurite outgrowth on a fibronectin isoform expressed during peripheral nerve regeneration is mediated by the interaction of paxillin with alpha4beta1 integrins. BMC Neurosci. 8: 44. 9. Seiberlich, V. *et al.* (2015) Downregulation of the microtubule associated protein Tau impairs process outgrowth and myelin basic protein mRNA transport in oligodendrocytes. Glia. 63 (9): 1621-35. 10. von Büdingen, H.C. *et al.* (2015) The myelin oligodendrocyte glycoprotein directly binds nerve growth factor to modulate central axon circuitry. J Cell Biol. 210 (6): 891-8. 11. Miyamoto, Y. *et al.* (2015) Involvement of the Tyro3 receptor and its intracellular partner Fyn signaling in Schwann cell myelination. Mol Biol Cell. 26 (19): 3489-503.
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 +4ºC. Following reconstitution store at -20ºC.

	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.
Shelf Life	3 months from date of reconstitution.
Health And Safety Information	Material Safety Datasheet documentation #10302 available at: 10302: https://www.bio-rad-antibodies.com/uploads/MSDS/10302.pdf
Regulatory	For research purposes only

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