

Product Information

Nerve Growth Factor- β (β -NGF), human recombinant, expressed in HEK cells

Catalog Number **N5415**

Storage Temperature -20°C

Synonyms: BNGF, β -NGF, NGF-b

Product Description

Nerve Growth Factor- β (β -NGF) is a neurotrophic factor structurally related to BDNF, NT-3, and NT-4.¹ The production of natural β -NGF occurs in epithelial cells,² and the pituitary gland.^{3,4} β -NGF promotes the survival and cholinergic phenotype of basal forebrain cholinergic neurons and stimulates neurite outgrowth of embryonic trigeminal motor neurons in vitro.⁴ It is a potent neurotrophic factor that signals through its receptor β -NGFR, and plays a crucial role in the development and preservation of the sensory and sympathetic nervous systems⁵.

This recombinant, human β -NGF product is lyophilized from PBS. It is expressed in human 293 cells as a homodimer (non-disulfide bonded) of 120 amino acids with a calculated molecular mass of 13.5 kDa (monomer).

Purity: $\geq 95\%$ (SDS-PAGE)

EC₅₀: ≤ 16 ng/mL

The EC₅₀ is defined as the effective concentration of β -NGF that elicits a 50% increase in cell growth. It is determined by the dose dependent stimulation of the proliferation of human TF-1 cells (human erythroleukemic indicator cell line).

Endotoxin level: ≤ 1 EU/ μg β -NGF

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile ultrapure water containing 0.1% endotoxin-free recombinant, human serum albumin at a final concentration of 100 $\mu\text{g/mL}$.

Storage/Stability

Store product at -20°C . The product retains activity for at least 2 years as supplied. After initial thawing it is recommended to store the protein in working aliquots at -20°C .

References

1. Rosenthal, A., and Lin, J.C., Modulation of neurotrophin signaling by monoclonal antibodies. *Handb. Exp. Pharmacol.*, **220**, 497-512 (2014).
2. Bothwell, M., Tissue localization of nerve growth factor and nerve growth factor receptors. *Curr. Top. Microbiol. Immunol.*, **165**, 55-70 (1991).
3. Lahtinen, T. et al., Biological demonstration of nerve growth factor in the rat pituitary gland. *Neuroscience*, **30(1)**, 165-70 (1989).
4. Soinila, S. et al., Nerve growth factor-like activity in the rat pituitary intermediate lobe. *Neurosci. Res.*, **6(2)**, 123-30 (1988).
5. Nielsen, K.M. et al., PACAP promotes sensory neuron differentiation: blockade by neurotrophic factors. *Mol. Cell. Neurosci.*, **25(4)**, 629-41 (2004).

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