

Human β -NGF / Beta-NGF Protein

Catalog Number: 11050-HNAC



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

NGF, Beta-NGF, HSN5, MGC161426, MGC161428, NGFB

Protein Construction:

A DNA sequence encoding the mature form of human β -NGF (NP_002497.2) (Ser 122-Arg 239) was expressed.

Source: Human

Expression Host: CHO Stable Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio-Activity

Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED50 for this effect is typically 0.2-2 ng/ml.

Endotoxin:

< 1.0 EU per μ g of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Ser 122

Molecular Mass:

The mature recombinant human β -NGF consists of 118 amino acids and has a predicted molecular mass of 13.2 kDa. β -NGF exists as a non-disulfide linked homodimer in solution.

Formulation:

Lyophilized from sterile 20mM NaAc, 150mM NaCl, pH 5.5

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

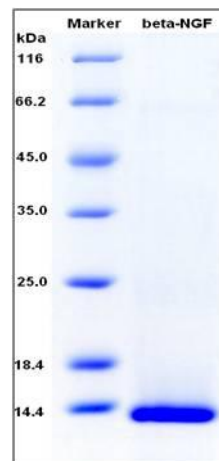
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

As the first one of a series of neurotrophic factors, nerve growth factor (NGF) is important for the development and maintenance of the sympathetic and sensory nervous systems. NGF was identified as a large complex consisting of three non-covalently linked subunits, α , β , and γ , among which, the β subunit, called β -NGF, was demonstrated to exhibit the growth stimulating activity of NGF. β -NGF is a target-derived secreted homodimeric protein of two 120-amino acid mature polypeptides after proteolytic removal of the signal and pro peptide. NGF acts via at least two receptors on the surface of cells, TrkA and p75 receptors to regulate neuronal survival, promote neurite outgrowth, and up-regulate certain neuronal functions such as mediation of pain and inflammation. In addition to its neurotrophic activities, studies indicated that NGF may also have an important role in the regulation of the immune system. The synthesis of β -NGF in astrocytes is enhanced by various other cytokines including IL-1, TNF- α , PDGF and TGF- β . Defects in β -NGF are the cause of hereditary sensory and autonomic neuropathy type 5 (HSAN5) characterized by degeneration of dorsal root and autonomic ganglion cells, as well as sensory and/or autonomic abnormalities.

References

1. Ullrich, A. et al., 1983, Nature. 303: 821-825.
2. Brain, A. et al., 1999, J. Neurosci. 19: 8207-8218.
3. Einarsdottir, E. et al., 2004, Hum. Mol. Genet. 13: 799-805.
4. Pedraza, C. E. et al., 2005, Am. J. Pathol. 166: 53-543.

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