

DESCRIPTION

Recombinant Human β -Nerve Growth Factor/ β -NGF produced in *E. coli* is a non-glycosylated non-covalent homodimer of two 118 amino acid polypeptides each with a molecular mass of 13.4 kD.

Accession #: P01138

Synonyms : Beta-Nerve Growth Factor, Beta-NGF, NGF, NGFB

FORMULATION

Lyophilized from a 0.2 μ M filtered solution of 20mM PB, 250mM NaCl, pH 7.0

SHIPPING

The product is shipped at ambient temperature.

Upon receipt, store it immediately at the temperature listed below.

STORAGE

Lyophilized protein should be stored at $< -20^{\circ}\text{C}$, though stable at room temperature for 3 weeks.

Reconstituted protein solution can be stored at $4-7^{\circ}\text{C}$ for 2-7 days.

Aliquots of reconstituted samples are stable at $< -20^{\circ}\text{C}$ for 3 months.

RECONSTITUTION

Always centrifuge tubes before opening. Do not mix by vortex or pipetting.

It is not recommended to reconstitute to a concentration less than $100\mu\text{g/ml}$.

Dissolve the lyophilized protein in 1X PBS.

Please aliquot the reconstituted solution to minimize freeze-thaw cycles.

QUALITY CONTROL

Bioactivity*: ED50 is less than 1.0 ng/ml. Specific Activity is greater than 1×10^6 IU/mg.

*measured by the dose-dependent stimulation of the proliferation of human TF-1 cells. Specific Activity is gr

Purity: Greater than 95% as determined by SEC-HPLC and reducing SDS-PAGE.

Endotoxin: Less than 0.1 ng/ μg (1 IEU/ μg).

AMINO ACID

SSSHPIFHRGEFSVCDSSVSVWVGDKTTATDIKGKEVMVLGEVNINNSVFKQYFFETKCRDPNPVDSGCRGIDSKHWNSYCTTT

SEQUENCE

HTFVKALTMDBGKQAAWRFIRIDTACVCLSRKAVRRA

BACKGROUND

Human β -Nerve Growth Factor (β -NGF) was initially isolated in the mouse submandibular gland. It is composed of three non-covalently linked subunits α , β , and γ ; it exhibits all the biological activities ascribed to NGF. It is structurally related to BDNF, NT-3 and NT-4 and belongs to the cysteine-knot family of growth factors that assume stable dimeric structures. B-NGF is a neurotrophic factor that signals through its receptor β -NGF, and plays a crucial role in the development and preservation of the sensory and sympathetic nervous systems. B-NGF also acts as a growth and differentiation factor for B lymphocytes and enhances B-cell survival. These results suggest that β -NGF is a pleiotropic cytokine, which in addition to its neurotrophic activities may have an important role in the regulation of the immune system. Human β -NGF shares 90% sequence similarity with mouse protein and shows cross-species reactivity.

SDS-PAGE

