**Product Description**

Nerve growth factor (NGF)-beta is a prototypical member of the neurotrophin family and has a role in the survival and growth of neural cells, regulating cell growth, promoting differentiation into neurons, and neuron migration. The beta subtype of NGF is biologically active in comparison to the alpha-2 and gamma-2 subtypes. NGF-beta in its secreted form can bind to tyrosine kinase A (TrkA) receptor with high affinity and to p75 (NTR) with low affinity (Levi & Alemà; Sofroniew et al.). NGF has been shown to possess pro-inflammatory and pro-fibrogenic properties (Micera et al.). It has also been shown that overexpression of NGF-beta promotes differentiation of bone marrow mesenchymal stem cells into neurons through regulation of AKT and MAPK pathways (Yuan et al.).

**Product Information**

**Alternative Names:** Beta-nerve growth factor, beta-NGF, nerve growth factor (beta polypeptide)

**Accession Number:** P01138

**Amino Acid Sequence:** MSSSHPIFHR GEFSVCDVSV VWVGDKTAT DIKGKEVMVL GEVNINNSVF KQYFFETKCR DPNPVDSGCR GIDSKHWNSY CTTHTTFVKA LTMDGKQAAW RFIRIDTACV CVLSRKAVRR A

**Predicted Molecular Mass:** 13.6 kDa monomer; 27.3 kDa dimer

**Species:** Human

**Cross Reactivity:** Mouse, Rat

**Formulation:** Lyophilized from a sterile-filtered aqueous solution containing 0.1% trifluoroacetic acid.

**Source:** E. coli

**Specifications**

**Activity:** The specific activity is $\geq 2 \times 10^5$ units/mg (EC50 $\leq$ 5 ng/mL) as determined by a cell proliferation assay using TF-1 cells.

**Purity:** $\geq 95\%$

**Endotoxin Level:** Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is $\leq 1$ EU/μg protein.

**Preparation and Storage**

**Storage:** Store at -20°C to -80°C.

**Stability:** Stable as supplied for 12 months from date of receipt.

**Preparation:** Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.
Cytokines

Human Recombinant NGF-beta

Data

(A) The biological activity of Human Recombinant NGF-beta was tested by its ability to promote the proliferation of TF-1 cells grown in GM-CSF-free medium. Cell proliferation was measured after 67 hours of culture using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 0.54 ng/mL.

(B) 1 μg of Human Recombinant NGF-beta was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant NGF-beta is a homodimer of 13.6 kDa subunits with a predicted total molecular mass of 27.3 kDa.

Related Products

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References


