

## Beta-NGF Protein, Mouse, Recombinant (E. colli)

### General Information

Synonyms:	NGFB; $\beta$ -NGF;NGF;Beta-Nerve Growth Factor; $\beta$ -Nerve Growth Factor;Beta-NGF
Protein Construction:	Met130-Arg239
Species:	Mouse
Expression Host:	E. coli
Accession:	P01139
Molecular Weight:	13 kDa (reducing conditions)
AA Sequence:	Met130-Arg239

### QC Testing

Biological Activity:	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED50 for this effect is 68.52 ng/mL.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/ $\mu$ g (1 EU/ $\mu$ g) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing 20 mM PB, 200 mM NaCl, pH 8.0.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100  $\mu$ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

NGF is the first member discovered in the Neurotrophin family, which includes brain-derived neurotrophic factor (BDNF), neurotrophin-3 (NT-3), and neurotrophin-4 (NT-4). These proteins belong to the cysteine-knot family of growth factors that assume stable dimeric structures. Mouse beta -NGF is a homodimer of two 120 amino acid polypeptides. It shares approximately 90% homology at the amino acid level with human beta -NGF and 95.8%

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with rat beta -NGF. NGF signaling has been shown to play an important role in neuroprotection and repair.  $\beta$ -NGF acts as a growth and differentiation factor for B lymphocytes, and enhances B-cell survival. It is a potent neurotrophic factor that signals through its receptor  $\beta$ -NGFR, and plays a crucial role in the development and preservation of the sensory and sympathetic nervous systems.

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