



# Recombinant Protein Technical Manual

## Recombinant Human $\beta$ -NGF/NGFB Protein (aa 122-241, E. coli)(Active) RPES3591

### Product Data:

**Product SKU:** RPES3591

**Size:** 10 $\mu$ g

**Species:** Human

**Expression host:** E. coli

**Uniprot:** P01138

### Protein Information:

**Molecular Mass:** 13.4 kDa

**AP Molecular Mass:** 14 kDa

#### Tag:

**Bio-activity:** Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED50 for this effect is 0.03-0.3 ng/ml.

**Purity:** > 95 % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per  $\mu$ g as determined by the LAL method.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from a 0.2  $\mu$ m filtered solution of 20mM PB, 250mM NaCl, pH 7.0.

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:** Cell Culture

**Synonyms:** Beta-Nerve Growth Factor; Beta-NGF; NGF; NGFB

## Immunogen Information:

**Sequence:** Ser122-Ala241

## Background:

Human  $\beta$ -Nerve Growth Factor ( $\beta$ -NGF) was initially isolated in the mouse submandibular gland. It is composed of three non-covalently linked subunits  $\alpha$ ,  $\beta$ , and  $\gamma$ ; 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  $\beta$ -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  $\beta$ -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  $\beta$ -NGF shares 90% sequence similarity with mouse protein and shows cross-species reactivity.