

hβ-NGF Protein

Human β-Nerve Growth Factor, Recombinant, E. coli

Catalog # PG10028

Specification**hβ-NGF Protein - Product Information****hβ-NGF Protein - Additional Information****Storage**

-20°C

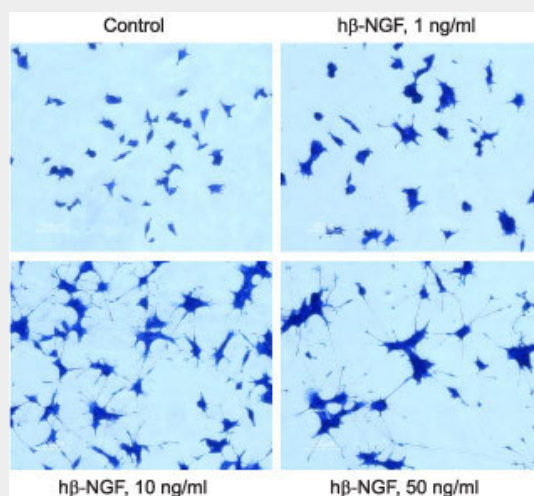
Precautions

hβ-NGF Protein is for research use only and not for use in diagnostic or therapeutic procedures.

hβ-NGF Protein - Protocols

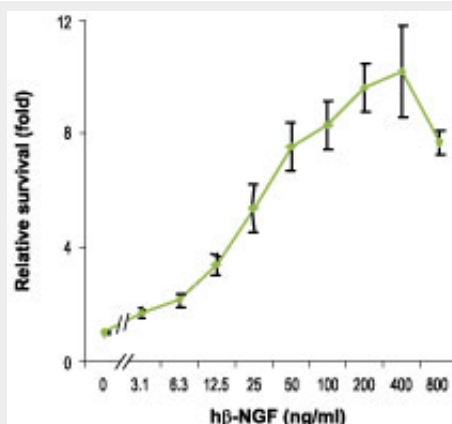
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

hβ-NGF Protein - Images

human_beta-NGF - Abgent human beta-NGF promotes neurite outgrowth in PC12 cells. Cells were

grown on collagen coated 24 well plates in DMEM medium, supplemented with 6% fetal calf serum and 6% horse serum for 24 h. human beta-NGF (#PG10028) was added at the indicated concentrations. The culture media was changed every 2-3 days. The development of neurites over a period of 5 days was visualized by Methylene Blue staining.



human_beta-NGF - Abgent human beta-NGF promotes survival of PC12 cells. Cells were grown in the absence of serum and collagen, and in the presence of varying concentrations of human beta-NGF (#PG10028). Cell survival relative to the control was measured by the XTT method, and plotted against human beta-NGF concentration.

hβ-NGF Protein - Background

The neurotrophins ("neuro" means nerve and "trophe" means nutrient) are a family of soluble, basic growth factors which regulate neuronal development, maintenance, survival and death in the CNS and the PNS.1NGF, the first member of the family to be discovered, was originally purified as a factor able to support survival of sympathetic and sensory spinal neurons in culture.2 It is synthesized and secreted by sympathetic and sensory target organs and provides trophic support to neurons as they reach their final target.3 Neurotrophin secretion increases in the nervous system following injury. Schwann cells, fibroblasts, and activated mast cells normally synthesize NGF constitutively, however direct trauma and induction of cytokines combine to increase neurotrophin production in these cells after injury.4The structural hallmark of all the neurotrophins is the characteristic arrangement of the disulfide bridges known as the cysteine knot, which has been found in other growth factors such as Platelet-Derived Growth Factor.5 There is a 95.8% homology between the rat and mouse forms, and a 85% homology between the human and mouse. NGF has been shown to regulate neuronal survival, development function and plasticity.6Recently, involvement of NGF in processes not involving neuronal cells has been shown, such as asthma,7psoriasis8 and wound healing.9 The biological effects of NGF are mediated by two receptors: TrkA, which is specific for NGF, and p75NTR, which binds all the neurotrophins.10

hβ-NGF Protein - References

- 1 . Roux, P. et al. (2002) Prog. Neurobiol.67, 203.
- 2 . Levi-Montalcini, R.(1966)Harvey Lect.60, 217.
- 3 . Farinas, I.et al.(1998)Neuron21, 325.
- 4 . Levi-Montalcini, R.et al. (1996) Trends Neurosci.19, 514.
- 5 . McDonald, N.Q.et al. (1991) Nature354, 411.
- 6 . Huang, E.J. and Reichardt, L.F.(2001)Annu. Rev. Neurosci.24, 677.
- 7 . Freund V. and Frossard, N.(1994)Prog. Brain Res.146, 335.
- 8 . Raychaudhuri, S.P. and Raychaudhuri, S.K.(2004)Prog. Brain Res.146, 433.
- 9 . Kawamoto, K. and Matsuda, H.(2004)Prog. Brain. Res.146,369.
- 10 . Teng, K.K. and Hempstead, B.L.(2004)Cell Mol. Life Sci.61, 35.