10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

NGF proDomain Protein (WT-human)

NGF proDomain (WT-human), Recombinant, E. coli
Catalog # PG10035

Specification

NGF proDomain Protein (WT-human) - Product Information

NGF proDomain Protein (WT-human) - Additional Information

Storage
-20°C

Precautions
NGF proDomain Protein (WT-human) is for research use only and not for use in diagnostic or therapeutic procedures.

NGF proDomain Protein (WT-human) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

NGF proDomain Protein (WT-human) - Images

NGF proDomain Protein (WT-human) - Background

NGF is a key factor in the survival and differentiation of neurons in the peripheral and central nervous systems. Like many other neurotrophins, mature NGF arises from the proteolytic cleavage of its precursor form (proNGF) by various proteases. It has been found that proNGF, and not mature NGF, is thepredominant isoform found in the human brain as well as in a variety of cell types, including mast cells, sciatic nerve cells, thyroid gland, skeletal muscle, prostate gland, hippocampus and hair follicle.4 The mouse salivary gland is the most abundant source of mature NGF. NGF can be secreted as proNGF or mature NGF, each with distinct binding preferences for p75NTR,Trk-family receptors and sortilin.13 In many cases, the full prodomain region derived from the precursor has biological functions, for instance; the prodomain of the transforming growth factor β (TGFβ) affects the dimerization and folding as well as the activity of the mature proteins via non-covalent association. The propeptide of the bone morphogenetic proteins BMP-4 and BMP-7 regulates the diffusion and distribution of these growth factors within the extracellular matrix.4,5 However, the role of the full NGF-prodomain, which is a proteolytic cleavage product of the proNGF, is not clearly understood. This region has been reported to give rise to several bioactive peptides that promote cell survival, probably through activation of Trk receptor pathway.6 Furthermore, binding competition studies suggest that binding sites for NGF prodomain

and BDNF prodomain are located in the tunnel of the ten-bladed β-propeller domain of sortilin.7,8

NGF proDomain Protein (WT-human) - References

1 . Dicou, E.(1992) Mol. Brain Res.14, 136.2 . Hasan, W.et al. (2003) J. Neurobiol.57, 38.3 . Dicou, E. (2006)BBRC.347. 833.4 . Gray, A. M., Mason, A.J.,1990.Science.247, 1328.5 . Gregory, K. E. et al. (2005) J. Biol. Chem.280, 27970.6 . Quistgaard, E. M et al.(2008)Nature Structural & Molecular Biology16, 96.7 . Paiardini, A. and Caputo, V. (2009) Neuropeptides,42,205.8 . Althaus, H.H. and Kloppner, S. (2006) J. Neurochem.98, 506.