

Recombinant Rat CNTF Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52303

Size: 10ug, 100ug

Protein Name: Ciliary neurotrophic factor (CNTF)

Synonym: Cntf

UniProt ID: P20294

UniProt Link: www.uniprot.org/uniprotkb/P20294/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 200 AA

Molecular Weight: 23 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAFAEQTPLTLHRRDLCSRSIWLARKIRSDLTALMESYVKHQGLNKNINLDSVDGVPVASTDRWSEM
TEAERLQENLQAYRTFQGMLTKLLEDQRVHFTPTEGDFHQAIHTLMLQVSAFAYQLEELMVLEQKI
PENEADGMPATVGDGGLFEKKLWGLKVLQELSQWTVRSIHDLRVISSHQMGISALESHYGAKDKQM

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Ciliary neurotrophic factor (CNTF) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Functions as a cytokine through the ciliary neurotrophic factor receptor (CNTFR) complex. The CNTFR complex indeed consists of the membrane-anchored non-signaling receptor CNTFR and the two signaling receptor subunits IL6ST/gp130 and LIFR that transduce the signal into the cell (By similarity). Functionally, promotes neuronal survival, supports differentiation of various neuronal and non-neuronal cells, and importantly regulates oligodendrocyte progenitor proliferation (Probable). Mechanistically, ligand binding to the CNTFR induces dimerization of the IL6ST/gp130 and LIFR, which activates JAK tyrosine kinases (JAK1 or JAK2 and to lesser extent TYK2) bound to their intracellular domains. These kinases subsequently phosphorylate IL6ST/gp130 and LIFR. The tyrosine phosphorylated signaling receptors serve in turn as docking sites for recruitment and activation of signal transducer and activators of transcription (STAT3 and to lesser extent STAT1). Can also signal via trans-signaling using soluble forms of CNTFR (By similarity). Seems to prevent the degeneration of motor axons after axotomy (PubMed:2342575).

Subcellular Localization: Cytoplasm . Secreted . Note=The precursor is cytoplasmic (Probable). The lack of a specific hydrophobic segment in the precursor sequence suggests that CNTF is released by damaged cells or is secreted by a mechanism differing from that used for other secretory proteins (Probable).

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.