

# Recombinant Rat CNTFR Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP52460

Size: 10ug, 100ug

Protein Name: Ciliary neurotrophic factor receptor subunit alpha (CNTF receptor subunit alpha) (CNTFR-alpha)

Synonym: Cntfr

UniProt ID: Q08406

UniProt Link: [www.uniprot.org/uniprotkb/Q08406/entry](http://www.uniprot.org/uniprotkb/Q08406/entry)

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 372 AA

Molecular Weight: 41 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

MAASVPWACCAVLAAAAAAVYTQKHSPQEAPHVQYERLGTDTVLP CGTASWDAAVTWRVNGTDL  
APDLLNGSQLILRSLELGHSGLYACFHRDSWHLRHQVLLHVGLPPREPVLSCRSNTYPKGFYCSWH  
LSAPTYIPNTFNVTVLHGSKMMVCEKDPALKNRCHIRYMHLEFSTIKYKVSISVSNALGHNTTITFDEF  
TIVKPDPPENVVARPVPSNPRRLEVTWQTPSTWPDPEFPLKFFLRYPRLILDQWQHVELSNGTAHT  
ITDAYAGKEYIIQVAAKDNEIGTWSDWSVAAHATPWTEEPRLTTEAQAPETTTSTTSSLAPPPTTKIC  
DPGELSSGGGPSIPFLTSPVTLVLAAAAATANNLLI

## 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 receptor subunit alpha (CNTF receptor subunit alpha) (CNTFR-alpha) 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 either as a membrane-anchored non-signaling receptor via a GPI anchor or, after proteolytic release, as a soluble ligand-binding chaperone, and mediates signaling of CNTF-related cytokines, including ciliary neurotrophic factor (CNTF), cardiotrophin-like cytokine factor 1 (CLCF1), and the heterodimeric cytokine formed by CLCF1 and the cytokine receptor-like factor 1 (CRLF1) (PubMed:8381290). Involved namely in cell survival of motor neurons and regulation of oligodendrocyte progenitor proliferation. Functions within the ciliary neurotrophic factor receptor (CNTFR) complex as a membrane-anchored non-signaling receptor subunit associated with two other signaling receptor subunits IL6ST/gp130 and LIFR. Alternatively functions as a soluble ligand-binding chaperone that binds ligand in the extracellular space, forming a cytokine complex which is delivered to the IL6ST/gp130 and LIFR signaling receptor subunits. Mechanistically, ligand binding to the CNTFR induces dimerization of the IL6ST/gp130 and LIFR (or IL27RA/WSX1 in the case of MT-RNR2/humanin), which activate JAK tyrosine kinases (JAK1 or JAK2 and to lesser extent TYK2) bound to their intracellular domains. These kinases subsequently phosphorylate IL6ST/gp130 and LIFR (or IL27RA/WSX1). 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) (By similarity).

**Subcellular Localization:** Cell membrane ; Lipid-anchor, GPI-anchor . Secreted . Note=Localized at cell membrane when associated with SORL1. Released from plasma membrane and extracellular vesicles (EV) by GPD2.

## 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.