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CNTF

Catalog # PVGS1490

Product Information

Primary Accession	P51642
Species	Mouse
Sequence	Ala2-Met198
Purity	> 95% as analyzed by SDS-PAGE
Endotoxin Level	
Biological Activity	ED_{50}
Expression System	E. coli
Formulation	Lyophilized after extensive dialysis against PBS
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O or PBS up to 100 g/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	12803
Other Names	Ciliary neurotrophic factor, CNTF, Cntf
Target Background	Ciliary Neurotrophic Factor (CNTF) is a polypeptide hormone which acts within the nervous system where it promotes neurotransmitter synthesis and neurite outgrowth in certain neuronal populations. CNTF is a potent survival factor for neurons and oligodendrocytes and may play a role in reducing tissue damage during increased inflammation. A mutation in this gene, which results in aberrant splicing, leads to ciliary neurotrophic factor deficiency, however this phenotype is not causally related to neurologic disease.

Protein Information

Name	Cntf {ECO:0000312|MGI:MGI:88439}
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. Functionally, promotes neuronal survival, supports differentiation of various neuronal and non-neuronal cells, and importantly regulates oligodendrocyte progenitor proliferation. 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 (By similarity).

Cellular Location

Cytoplasm {ECO:0000250|UniProtKB:P26441}. Secreted {ECO:0000250|UniProtKB:Q02011}. Note=The precursor semms to be cytoplasmic (By similarity). 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 (By similarity). {ECO:0000250|UniProtKB:P20294, ECO:0000250|UniProtKB:P26441}

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