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CNTF

Catalog # PVGS1667

Product Information

Primary Accession	P51642
Species	Mouse
Sequence	Ala2-Met198
Purity	> 95% as analyzed by SDS-PAGE > 95% as analyzed by HPLC
Endotoxin Level	
Expression System	E. coli
Theoretical Molecular Weight	22.5 kDa
Formulation	Lyophilized from a 0.2 μm filtered solution in 2 × PBS, pH 7.4, 2 % trehalose.
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 sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1 mg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -20°C or -70°C. Upon reconstitution, the product should be stable for up to 1 week at 2-8°C or up to 3 months at -20°C. 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 whose actions appear to be restricted to the nervous system where it promotes neurotransmitter synthesis and neurite outgrowth in certain neuronal populations. CNTF was initially identified as a trophic factor for embryonic chick ciliary parasympathetic neurons in culture. Furthermore, the protein is also a potent survival factor for neurons and oligodendrocytes and may be relevant in reducing tissue destruction during inflammatory attacks. In addition, CNTF is useful for treatment of motor neuron disease and it could reduce food intake without causing hunger or stress. Recombinant murine CNTF containing 198 amino acids and it shares 82 % and 95 % a.a. sequence identity with human and rat CNTF.

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}

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.