

Recombinant Rat Ciliary Neurotrophic Factor

Cat. No. Cntf-296R **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant Rat Cntf produced in *E. Coli* is a single, non-glycosylated polypeptide chain containing 200 amino acids and having a molecular mass of 22834 Dalton. The CNTF is purified by proprietary chromatographic techniques.

Species Rat

Source E.coli

Description 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. The protein is a potent survival factor for neurons and oligodendrocytes and may be relevant in reducing tissue destruction during inflammatory attacks. A mutation in this gene, which results in aberrant splicing, leads to ciliary neurotrophic factor deficiency, but this phenotype is not causally related to neurologic disease. In addition to the predominant monocistronic transcript originating from this locus, the gene is also co-transcribed with the upstream ZFP91 gene. Co-transcription from the two loci results in a transcript that contains a complete coding region for the zinc finger protein but lacks a complete coding region for ciliary neurotrophic factor. CNTF is a survival factor for various neuronal cell types. Seems to prevent the degeneration of motor axons after axotomy.

Amino Acid Sequence AFAEQTPLTLHRRDLSSRSIWLARKIRSDLTALMESYVKHQGLNKNINLDSVD GVPV
ASTDRWSEMTEAERLQENLQAYRTFQGMLTKLLEDQRVHFTPTGDFHQ AIHTLM
LQVSAFAYQLEELMVLLEQKIPENEADGMPATVGDGGLFEKKLWGLK VLQELSQW

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TVRSIHDLRVISSHQMGISALESHYGAKDKQM

Purity

Greater than 99.0% as determined by: (a) Analysis by Gel Filtration. (b) Analysis by SDS-PAGE.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a concentrated (1mg/ml) solution in water containing 0.025% NaHCO₃.

Solubility

It is recommended to reconstitute the lyophilized CNTF in sterile water or 0.4% NaHCO₃ adjusted to pH 8-9, not less than 100g/ml, which can then be further diluted to other aqueous solutions, preferably in presence of carrier protein.

Protein content

CNTF quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm using the absorbency value of 1.22 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a standard solution of CNTF Recombinant as a Reference Standard.

Stability

Lyophilized CNTF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution CNTF should be stored at 4°C between 2-7 days and for future use below -18°C. Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name

[Cntf ciliary neurotrophic factor \[Mus musculus \]](#)

Synonyms

Cntf; ciliary neurotrophic factor; AI429687; MGC41235; OTTMUSP00000029848

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Gene ID	12803
mRNA Refseq	NM_170786
Protein Refseq	NP_740756
UniProt ID	P51642
Chromosome Location	19 7.0 cM
Pathway	Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway
Function	growth factor activity

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