



## Ciliary Neurotrophic Factor, human recombinant (rHuCNTF)

**Catalog No:** 87362  
**Lot No:** XXXXX  
**Source:** *E. coli*  
**Synonyms:** HCNTF, CNTF, Ciliary Neurotrophic Factor

### Background

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.

### Description

Ciliary Neurotrophic Factor human recombinant produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 199 amino acids and having a molecular mass of 22706 Dalton. CNTF is purified by proprietary chromatographic techniques.

### Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

### Formulation

Lyophilized from a concentrated (1 mg/ml) solution in water containing 5 mM sodium phosphate buffer pH 7.5 and 5 mM sodium chloride.

### Solubility

It is recommended to reconstitute the lyophilized HCNTF in sterile 18 MΩ-cm H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

### Stability

Lyophilized Ciliary Neurotrophic Factor, 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.

### Purity

Greater than 98.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

### Amino Acid Sequence

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Ala-Phe-Thr-Glu.

### Activity

The ED<sub>50</sub> as determined by the dose-dependant stimulation of TF-1 cells is <2 ng/ml, corresponding to a specific activity of 500,000 IU/mg.

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#### Usage

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