

# Recombinant Human Ciliary Neurotrophic Factor (CNTF)

## Certificate of Analysis and Data Sheet

➤ <b>Source:</b> E.Coli	➤ <b>Catalog No.</b> CTK-272
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### ➤ **Background :**

A neurotrophic factor that promotes the survival of various neuronal cell types and may play an important role in the injury response in the nervous system. CNTF, like FGF acidic , FGF basic , and PD-ECGF (platelet-derived endothelial cell growth factor ), does not possess a signal sequence that would allow secretion of the factor by classical secretion pathways (endoplasmatic reticulum/Golgi system). The mechanism underlying the release of CNTF is unknown.

### ➤ **Description :**

Recombinant Human CNTF produced in E.Coli is a single, non-glycosylated polypeptide chain containing 199 amino acids and having a molecular mass of 22706 Dalton.  
Recombinant CNTF is purified by proprietary chromatographic techniques.

### ➤ **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

### ➤ **Formulation:**

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

### ➤ **Solubility:**

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

### ➤ **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. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Please avoid freeze-thaw cycles.**

### ➤ **Purity:**

Greater than 98.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Anion-exchange FPLC.
- (c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

➤ **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.

➤ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

➤ **Biological Activity:**

This Recombinant Human Ciliary Neurotrophic Factor is fully biologically active when compared to standard. The ED50 as determined by the dose-dependant stimulation of TF-1 cells is less than 2 ng/ml, corresponding to a Specific Activity of  $5 \times 10^6$  IU/mg.

➤ **Endotoxin:**

Less than 0.1 ng/ $\mu$ g (IEU/ $\mu$ g) of recombinant CNTF .

➤ **Protein content:**

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 1.28 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 human CNTF as a Reference Standard.

➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.