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Certificate of Analysis and Data Sheet

Recombinant Human Ciliary Neurotrophic Factor

Catalog No.
228-10260

Source:
Escherichia coli

Synonyms:

HCNTF, CNTF, Ciliary Neurotrophic Factor.

Introduction:

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 Recombinant Human produced in E.Coli is a single, non-glycosylated polypeptide chain containing 199 amino acids and having a molecular mass of 22706 Dalton. The 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 HCNTF in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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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.

Biological Activity

The ED50 as determined by the dose-dependant stimulation of TF-1 cells is < 2 ng/ml, corresponding to a Specific Activity of 5×10^5 IU/mg.

Protein content

CNTF 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 CNTF Recombinant as a Reference Standard.

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