Ciliary Neurotrophic Factor, mouse recombinant (rmCNTF)

Catalog No: 97429
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 recombinant mouse produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 198 amino acids and having a molecular mass of 22.6 kDa. CNTF is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.

Solubility

It is recommended to reconstitute the lyophilized CNTF in sterile 18 MΩ-cm H_2O 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 97.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

Amino Acid Sequence

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MAFAEQSPLT LHRRDLCSRS IWLARKIRSD LTALMESYVK HQGLNKNISL DSVDGVPVAS TDRWSEMTEA ERLQENLQAY
RTFQGMLTKL LEDQRVHFTP TEGDFHQAIH TLTLQVSAFA YQLEELMALL EQKVPEKEAD GMPVTIGDGG LFEKKLWGLK
VLQELSQWTV RSIHDLRVIS SHHMGISAHE SHYGAKQM
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Activity

Fully biologically active when compared to standard. The ED50 as determined by the dose-dependant stimulation of TF-1 cells is less than 35 ng/ml, corresponding to a specific activity of 3.0 × 10,000 IU/mg.

Usage

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