Ciliary Neurotrophic Factor, rat recombinant (rrCNTF)

Catalog No: 97268
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

CNTF recombinant rat produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 200 amino acids and having a molecular mass of 22834 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 0.025% $NaHCO_3$.

Solubility

It is recommended to reconstitute the lyophilized CNTF in sterile water or 0.4% $NaHCO_3$ adjusted to pH 8-9, not less than 100 µg/ml, which can then be further diluted to other aqueous solutions, preferably in presence of carrier protein.

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.

Purity

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

Amino Acid Sequence

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AFAEQTPLTL HRRDLSSRSI WLARKIRSDL TALMESYVKH QGLNKNINLD SVDGVPVAST DRWSEMTEAE RLQENLQAYR
TFQGMLTKLL EDQRVHFTPT EGDFHQAIHT LMLQVSAFAY QLEELMVLLE QKIPENEADG MPATVGDGGL FEKKLWGLKV
LQELSQWTVR SIHDLRVISS HQMGISALES HYGAKDKQM
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Activity

Fully biologically active by its ability to phosphorylate STAT3 in several cells lines.

Usage

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