

DESCRIPTION

Source	<i>E. coli</i> -derived human CNTF protein Ala2-Met200 Accession # P26441.1
N-terminal Sequence Analysis	Ala2
Structure / Form	This recombinant protein is prone to proteolytic degradation at the C-terminus, resulting in proteins with molecular masses of 22.2-22.8 kDa.
Predicted Molecular Mass	22.8 kDa

SPECIFICATIONS

SDS-PAGE	23-26 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. Kitamura, T. <i>et al.</i> (1989) J. Cell Physiol. 140 :323. The ED ₅₀ for this effect is 0.03-0.18 µg/mL. The proliferative effect can be enhanced up to 100-fold by the addition of Recombinant Human CNTF Rα (Catalog # 303-CR).
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in Tris, NaCl, TCEP, EDTA, CHAPS and Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 3 months, 2 to 8 °C under sterile conditions after reconstitution.

DATA

<p>Bioactivity</p> <p>Recombinant Human CNTF (Catalog # 257-NT/CF) stimulates cell proliferation of the TF-1 human erythroleukemic cell line. The ED₅₀ for this effect is 0.03-0.18 µg/mL.</p>	<p>SDS-PAGE</p> <p>1 µg/lane of Recombinant Human CNTF was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a band at 26 kDa.</p>
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BACKGROUND

Ciliary neurotrophic factor (CNTF) is a polypeptide initially purified from chick embryo ocular tissue and identified as a trophic factor for embryonic chick ciliary parasymphathetic neurons in culture. Subsequent studies have demonstrated that CNTF is a survival factor for additional neuronal cell types including: dorsal root ganglion sensory neurons, sympathetic ganglion neurons, embryonic motor neurons, major pelvic ganglion neurons and hippocampal neurons. CNTF has also been shown to prevent the degeneration of motor axons after axotomy.

The gene for human CNTF has been localized to the proximal region of the long arm of chromosome 11. The cDNA for human CNTF encodes a 200 amino acid residue polypeptide that lacks a signal sequence. CNTF is highly conserved across species and exhibits cross-species activities. Human and rat CNTF share approximately 83% homology in their protein sequence. CNTF is structurally related to IL-6, IL-11, LIF and OSM. All of these four helix bundle cytokines share gp130 as a signal-transducing subunit in their receptor complexes.