Overview

Synonyms	Ciliary Neurotrophic Factor
Description	**Ciliary Neurotrophic Factor (CNTF)** is a cytokine belonging to the Interleukin 6 (IL-6) family, which also includes IL-6, Oncostatin M, Leukemia Inhibitory Factor (LIF), and Cardiotrophin-1. Structurally, CNTF resembles a four-helix bundle composition, similar to the other members of the IL-6 family. The receptor for CNTF is composed of three parts: a gp130-like subunit common in the IL-6 receptor family, a LIF Receptor ² subunit, and a CNTF specific ± receptor subunit. Upon binding to the CNTF, the ² subunit of the CNTF receptor will undergo tyrosine phosphorylation, and activate the intracellular JAK/STAT pathway. The main function of CNTF *in vivo* is to promote the differentiation and survival of a variety of neurons and glial cells, including sympathetic precursor cells and spinal motor neurons. Recombinant **human Ciliary Neurotrophic Factor (rhCNTF)** produced in E. coli is a single non-glycosylated polypeptide chain containing 199 amino acids. A fully biologically active molecule, rhCNTF has a molecular mass of 22.8 kDa analyzed by reducing SDS-PAGE and is obtained by proprietary chromatographic techniques.
Accession No	P26441
Species	Human
Source	*E. coli*
Biological Activity	ED_{50} < 200 ng/ml, measured cell proliferation assay using TF-1 cells, corresponding to a specific activity of > 5×10^{3} units/mg.
Sequence	AFTEHSPLTP HRRDLCSRSI WLARKIRSDL TALTESYVKH QGLNKNINLD SADGMPVAST DQWSELTEAE RLQENLQAYR TFHVLLARLL EDQQVHFTPT EGDFHQAIHT LLLQVAAFAY QIEELMILLE YKIPRNEADG MPINVGDGGL FEKKLWGLKV LQELSQWTVR SIHDLRFISS HQTGIPARGS HYIANNKKM

Properties

Measured Molecular Weight	22.8 kDa, observed by reducing SDS-PAGE.
Purity	> 95% as analyzed by SDS-PAGE and HPLC.
Formulation	Lyophilized after extensive dialysis against PBS.
Reconstitution	Reconstituted in ddH_2O or PBS at 100 µg/ml.
Endotoxin Level	< 0.2 EU/µg, determined by LAL method.
Storage	Lyophilized recombinant **human Ciliary Neurotrophic Factor (rhCNTF)** remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, rhCNTF remains stable up to 2 weeks at 4°C or up to 3 months at -20°C.
Note	For research use only

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