

## CNTF

### Ciliary Neurotrophic Factor

human, recombinant, *E. coli*

Cat. No.	Amount
PR-411	20 µg

For *in vitro* use only  
Quality guaranteed for 12 months  
Store at -20°C

### Avoid freeze / thaw cycles

#### Form

Lyophilized. CNTF was lyophilized from a 1 mg/ml solution containing 5 mM sodium phosphate buffer pH 7.5 and 5 mM NaCl.

#### Solubility

It is recommended to reconstitute the lyophilized CNTF in sterile bidest H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

#### Activity

ED<sub>50</sub>: < 2 ng/ml, corresponding to a specific activity of 5 × 10<sup>5</sup> IU/mg, as determined by the dosedependant stimulation of TF-1 cells.

#### Molecular Weight

23 kDa

#### Purity

≥ 95% by SDS-PAGE and RP-HPLC

### Description

Ciliary neurotrophic factor (CNTF) belongs to the gp130 family of cytokines. This family also includes leukemia inhibitory factor, interleukin (IL)-6, IL-11, oncostatin M, cardiotrophin-1, and the newly identified cardiotrophin-like cytokine. Among its many functions, CNTF enhances the survival of neuronal cells and has been investigated as a therapeutic agent for motor neuron disease.

CNTF, like FGF acidic, FGF basic, and PD-ECGF (platelet-derived endothelial cell growth factor), does not possess a signal sequence that would allow secretion of the factor by classical secretion pathways (endoplasmatic reticulum/Golgi system). The mechanism underlying the release of CNTF is still unknown.

Recombinant human CNTF produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 199 amino acids and having a molecular mass of 22.7 kDa. Recombinant CNTF is purified by proprietary chromatographic techniques.

### Selected References:

- Man *et al.* (2003) Solution structure of the C-terminal domain of the ciliary neurotrophic factor (CNTF) receptor and ligand free associations among components of the CNTF receptor complex. *J. Biol. Chem.* **278**:23285.
- Setoguchi *et al.* (2004) Nuclear export of OLIG2 in neural stem cells is essential for ciliary neurotrophic factor-induced astrocyte differentiation. *J. Cell. Biol.* **166**:963.
- McCallister *et al.* (2004) Regeneration along intact nerves using nerve growth factor and ciliary neurotrophic factor. *J. Reconstr. Microsurg.* **20**:473.
- Calcutt *et al.* (2004) Prevention of sensory disorders in diabetic Sprague-Dawley rats by aldose reductase inhibition or treatment with ciliary neurotrophic factor. *Diabetologia* **47**:718.
- Bongioanni *et al.* (2004) Ciliary neurotrophic factor (CNTF) for amyotrophic lateral sclerosis/motor neuron disease. *Cochrane Database Syst. Rev.* **(3)**:CD004302.
- Kimata (2004) Ciliary neurotrophic factor preferentially enhances spontaneous IgE production by B cells from atopic patients. *Neuropeptides* **38**:92.