

## Product Information

**Ciliary Neurotrophic Factor from rat**  
recombinant, expressed in *Escherichia coli*  
cell culture tested

Catalog Number **C3835**  
Storage Temperature  $-20\text{ }^{\circ}\text{C}$

Synonym: CNTF

### Product Description

Recombinant, rat Ciliary Neurotrophic Factor is produced as a 200 amino acid polypeptide (22.7 kDa) lacking a hydrophobic N-terminal signal for secretion. It is highly conserved across species and exhibits cross-species interaction.

Ciliary neurotrophic factor was initially characterized as a survival factor for chick ciliary neurons *in vitro*, but has since been shown to promote the survival of a variety of other neuronal cell types, including dorsal root ganglion sensory neurons, motor neurons, basal forebrain neurons, embryonic motor neurons, and hippocampal neurons. CNTF inhibits the proliferation of E7 chick sympathetic neurons, induces the expression of vasoactive intestinal peptide immunoreactivity, and promotes the differentiation of bipotential O2A progenitor cells to type 2 astrocytes *in vitro*.<sup>1</sup>

CNTF has been demonstrated to support the survival, and stimulate neurite outgrowth, of cultured embryonic chick dorsal root ganglia.

The product is lyophilized from a 0.2  $\mu\text{m}$ -filtered solution of 5 mM sodium acetate, pH 6.5.

The biological activity of Ciliary Neurotrophic Factor (CNTF) is measured by its ability to stimulate proliferation using a factor-dependent human erythroleukemic cell line, TF-1.<sup>2</sup>

The  $\text{EC}_{50}$  is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell-based bioassay.

Purity:  $\geq 98\%$  (SDS-PAGE and HPLC)

Endotoxin:  $\leq 0.1\text{ ng}/\mu\text{g}$  CNTF

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Preparation Instructions

Reconstitute the contents of the vial using water to a concentration of 0.1–1.0 mg/ml. This solution can then be diluted into other aqueous buffers and stored at  $2\text{--}8\text{ }^{\circ}\text{C}$  for up to 1 week or frozen in working aliquots at  $-20\text{ }^{\circ}\text{C}$  for future use.

### Storage/Stability

Prior to reconstitution, store at  $-20\text{ }^{\circ}\text{C}$ . The lyophilized protein remains active for up to a few weeks at room temperature, but is best stored at  $-20\text{ }^{\circ}\text{C}$ .

For extended use, the reconstituted product should be stored in working aliquots at  $-20\text{ }^{\circ}\text{C}$ . Repeated freezing and thawing is not recommended.

### References

1. Stöckli, K., *et al.*, *Nature*, **342**, 920, (1989).
2. Kitamura, T., *et al.*, *J. Cell. Physiol.*, **140**, 323 (1989).

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