

## CNTF Protein, Rat, Recombinant

### General Information

Synonyms:	ciliary neurotrophic factor
Protein Construction:	A DNA sequence encoding the rat CNTF (P20294) (Met 1-Met 200) was expressed and purified. Predicted N terminal: Met 1
Species:	Rat
Expression Host:	E. coli
Accession:	P20294
Molecular Weight:	22.9 kDa (predicted); 24 kDa (reducing conditions)

### QC Testing

Biological Activity:	<ol style="list-style-type: none"><li>1. Immobilized rat CNTF at 10 µg/ml (100 µl/well) can bind biotinylated rat CNTFR-His (aa 1-346) with a linear range of 1.56-50.0 ng/ml.</li><li>2. Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED50 for this effect is typically 10-100 ng/ml.</li></ol>
Purity:	> 92 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing 50 mM Tris, 0.1M NaCl, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

*Actual storage temperature shall be subject to the COA.*

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Ciliary neurotrophic factor (CNTF) is a member of the cytokine family. It is a polypeptide hormone that has functions in promoting neurotransmitter synthesis and neurite outgrowth in certain neuronal populations. Its actions appear to be restricted to the nervous system. Ciliary neurotrophic factor (CNTF) has biological effects

through the activation of a multi-subunit receptor complex, consisting of an extracellular CNTF binding subunit (CNTF $\alpha$ ) and two transmembrane signal transduction proteins: glycoprotein gp130 and LIF receptor. CNTF is considered as a potent survival factor of neurons and oligodendrocytes and may be relevant in reducing tissue destruction during inflammatory attacks. CNTF also is a survival factor for neurons of the peripheral sensory sympathetic and ciliary ganglia. It has been reported that CNTF could be an agent that has therapeutic potential and possibly induces differentiation of large multipolar ganglionic phenotype in a subset of progenitors.

### Reference

- Dutt K, et al. (2010) Ciliary neurotrophic factor: a survival and differentiation inducer in human retinal progenitors. *In Vitro Cell Dev Biol Anim.* 46 (7) : 635-46.
- Lam A, et al. (1991) Sequence and structural organization of the human gene encoding ciliary neurotrophic factor. *Gene* 102 (2) : 271-6.
- Bazan JF. (1991) Neurotrophic cytokines in the hematopoietic fold. *Neuron* 7 (2) : 197-208.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481