

**DESCRIPTION**

<b>Species Reactivity</b>	Rat
<b>Specificity</b>	Detects rat CNTF in direct ELISAs and Western blots.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Protein A or G purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant rat CNTF Ala2-Met200 Accession # P20294
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

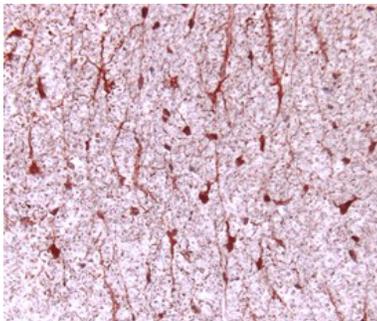
**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the Technical Information section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	Recombinant Rat CNTF (Catalog # 557-NT)
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>Neutralization</b>	Measured by its ability to neutralize the effect of CNTF on dorsal root ganglion neurons from E10 chick embryos. Davies, A.M. (1989) in <i>Neurotrophic Factor Bioassay Using Dissociated Neurons</i> , Nerve Growth Factor. Rush, R.A. (eds); John Willey and Sons, Ltd. 95. The Neutralization Dose (ND <sub>50</sub> ) is typically 7-15 µg/mL in the presence of 1 ng/mL Recombinant Rat CNTF.	

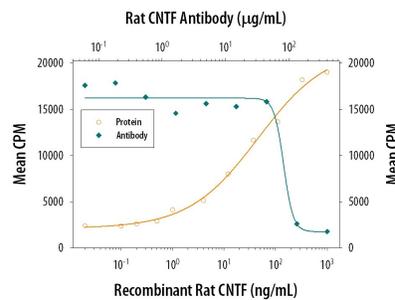
**DATA**

**Immunohistochemistry**



**CNTF in Rat Spinal Cord.** CNTF was detected in perfusion fixed frozen sections of rat spinal cord using Goat Anti-Rat CNTF Polyclonal Antibody (Catalog # AB-557-NA) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown); (Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the cytoplasm of glial cells in the white matter. View our protocol for [Chromogenic IHC Staining of Frozen Tissue Sections](#).

**Neutralization**



**Neuron Survival in Response to CNTF and Neutralization by Rat CNTF Antibody.** Recombinant Rat CNTF (Catalog # 557-NT) supports the survival of dorsal root ganglion neurons from E10 chick embryos in a dose-dependent manner (orange line), as measured by MTT staining. Neuron survival elicited by Recombinant Rat CNTF (1 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Rat CNTF Polyclonal Antibody (Catalog # AB-557-NA). The ND<sub>50</sub> is typically 7-15 µg/mL.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 1 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**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 parasympathetic 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 cDNA for 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.