

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat CNTF in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 5-10% cross-reactivity with human CNTF is observed.
Source	Polyclonal Goat IgG
Purification	Protein A or G purified
Immunogen	<i>E. coli</i> -derived recombinant rat CNTF Ala2-Met200 Accession # P20294
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

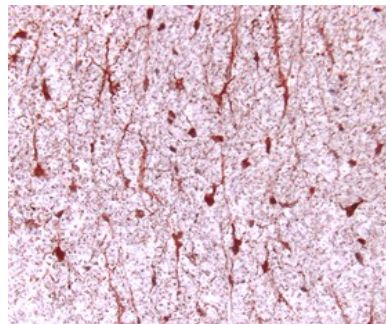
APPLICATIONS

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.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Rat CNTF (Catalog # 557-NT)
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	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 Wiley and Sons, Ltd. 95. The Neutralization Dose (ND ₅₀) is typically 7-15 µg/mL in the presence of 1 ng/mL Recombinant Rat CNTF.	

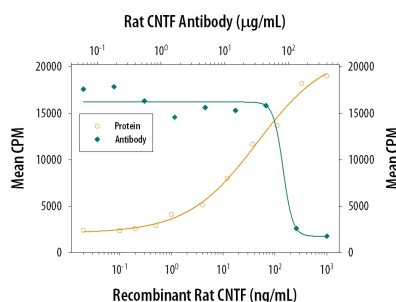
DATA

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 ND₅₀ is typically 7-15 µg/mL.

PREPARATION AND STORAGE

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

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.