

Mouse/Rat CNTF Antibody

Antigen Affinity-purified Polyclonal Goat IgG Catalog Number: AF-557-NA

DESCRIPTION		
Species Reactivity	Mouse/Rat	
Specificity	Detects rat CNTF in direct ELISAs and Western blots. Detects mouse and rat CNTF in immunohistochemistry. In direct ELISAs and Western blots, less than 15% cross-reactivity with recombinant human CNTF is observed.	
Source	Polyclonal Goat IgG	
Purification	Antigen Affinity-purified	
Immunogen	<i>E. coli</i> -derived recombinant rat CNTF Ala2-Met200 Accession # P20294.1	
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. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.	

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
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize CNTF-induced proliferation in the TF-1 human erythroleukemic cell line. The Neutralization Dose (NDm) is typically 0.3-2.4 µg/mL in the presence of 20 ng/mL Recombinant Rat CNTF	

DATA

Immunohistochemistry



CNTF in Mouse Cerebellum. CNTF was detected in perfusion fixed frozen sections of mouse cerebellum using Goat Anti-Rat CNTF Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-557-NA) at 1.7 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte[™] HRP Polymer Antibody (Catalog # VC004). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to Purkinje neurons. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Immunohistochemistry



CNTF in Rat Cerebellum. CNTF was detected in perfusion fixed frozen sections of rat cerebellum using Goat Anti-Rat CNTF Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-557-NA) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte[™] HRP Polymer Antibody (Catalog # VC004). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to Purkinje neurons. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Immunohistochemistry



CNTF in Mouse Brain. CNTF was detected in perfusion fixed paraffin-embedded sections of mouse brain (hippocampus) using Goat Anti-Rat CNTF Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-557-NA) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte[™] HRP Polymer Antibody (Catalog # VC004). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cell membranes and cytoplasm of Purkinje cells. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents

Neutralization



Cell Proliferation Induced by **CNTF and Neutralization by** Rat CNTF Antibody. Recombinant Rat CNTF (Catalog # 557-NT) stimulates proliferation in the TF-1 human erythroleukemic cell line in a dosedependent manner (orange line). Proliferation elicited by Recombinant Rat CNTF (20 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Rat CNTF Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-557-NA). The ND₅₀ is typically 0.3-2.4 µg/mL.

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PREPARATION AND STORAGE		
Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.	
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C	
Stability & Storage	 Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 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.

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