

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects human CNTF R α in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant human CNTF sR α is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf21-derived recombinant rat CNTF R α Ala19-Pro346 Accession # Q08406
Endotoxin Level	<0.10 EU per 1 μ g of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

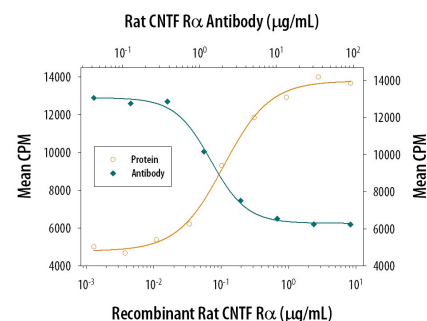
APPLICATIONS

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	0.1 μ g/mL	Recombinant Rat CNTF R α (Catalog # 558-CR)
Immunohistochemistry	5-15 μ g/mL	Perfusion fixed frozen sections of rat brain (cortex)
Neutralization	Measured by its ability to neutralize CNTF R α -enhanced proliferation in the TF-1 human erythroleukemic cell line. The Neutralization Dose (ND ₅₀) is typically 2-6 μ g/mL in the presence of 0.25 μ g/mL Recombinant Rat CNTF R α and 10 ng/mL Recombinant Rat CNTF.	

DATA

Neutralization



CNTF R α Enhancement of CNTF-dependent Cell Proliferation and Neutralization by Rat CNTF R α Antibody. Recombinant Rat CNTF R α (Catalog # [558-CR](#)) enhances Recombinant Rat CNTF (Catalog # [557-NT](#)) induced proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line). Enhancement of Recombinant Rat CNTF (10 ng/mL) activity elicited by Recombinant Rat CNTF R α (0.25 μ g/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Rat CNTF R α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-559-NA). The ND₅₀ is typically 2-6 μ g/mL.

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.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> 12 months from date of receipt, -20 to -70 °C as supplied. 1 month from date of receipt, 2 to 8 °C, reconstituted. 6 months from date of receipt, -20 to -70 °C, reconstituted.

BACKGROUND

The high-affinity CNTF receptor complex, which mediates the biological action of CNTF, contains three proteins: the ligand-binding α subunit (CNTF R α) and the two signal-transducing proteins LIF R β and gp130. Whereas LIF R β and gp130 are widely expressed in many cell types, the expression of CNTF R α is restricted to the central and peripheral nervous systems. cDNAs encoding CNTF R α have been isolated from both human and rat and were shown to share 94% amino acid (aa) sequence identity. Rat CNTF R α cDNA encodes a 372 amino acid residue precursor protein that apparently has a 22 aa residue signal peptide and five potential glycosylation sites. CNTF R α differs from other cytokine receptors in that it lacks transmembrane and cytoplasmic domains and is anchored to cell membranes by a glycosylphosphatidylinositol (GPI) linkage. Similar to other GPI-linked proteins, soluble CNTF receptor α (CNTF sR α) can be released from the cell surface by phosphatidylinositol-specific phospholipase C. CNTF sR α can be released from skeletal muscle in response to peripheral nerve injury and high concentrations of CNTF sR α have also been detected in human cerebrospinal fluid. CNTF sR α binds CNTF in solution and the complex can act on cells that express only LIF R β and gp130 but not CNTF R α .

References:

1. Yancopoulos, G.D. in *Guidebook to Cytokines and Their Receptors*, Nicola, N.A. editor, Oxford University Press, New York, pp137.