SANTA CRUZ BIOTECHNOLOGY, INC.

CNTF (C-18): sc-1911

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ciliary neurotrophic factor, or CNTF, is a neuropoietic cytokine that promotes the survival and differentiation of a number of cell types including sensory, sympathetic and motor neurons. CNTF, LIF and IL-6 belong to a family of cytokines that share structural homology and signal through identical receptor components. The CNTF receptor (CNTFR) is comprised of CNTFRα, a CNTFR-specific chain, and a heterodimer of the gp130 chain common to the IL-6 and LIF receptor and the LIFRb chain. The CNTFR complex has been shown to augment DNA synthesis through the activation of transcription factors Stat1 and Stat3. CNTF has been implicated as a protein involved in the pathogenesis of amyotrophic lateral sclerosis, or ALS. However, unlike mice lacking CNTF, mice containing a homozygous null mutation in the gene encoding the CNTFRα chain die perinatally and display severe motor neuron deficits. This data suggests the existence of a second CNTFR ligand that plays a critical role in development of the neonatal nervous system.

REFERENCES

1. He, C., et al. 1995. Preparation and a structure-function analysis of human ciliary neurotrophic factor. Neurosci. Res. 23: 327-333.
2. Saggio, I., et al. 1995. CNTF variants with increased biological potency and receptor selectivity define a functional site of receptor interaction. EMBO J. 14: 3045-3054.
3. De Serio, A., et al. 1995. *In vitro* binding of ciliary neurotrophic factor to its receptors: evidence for the formation of an IL-6-type hexameric complex. J. Mol. Biol. 254: 795-800.
4. Orrell, R.W., et al. 1995. Investigation of a null mutation of the CNTF gene in familial amyotrophic lateral sclerosis. J. Neurol. Sci. 132: 126-128.
5. DeChiara, T.M., et al. 1995. Mice lacking the CNTF receptor, unlike mice lacking CNTF, exhibit profound motor neuron deficits at birth. Cell 83: 313-322.
6. Robledo, O., et al. 1996. Binding interactions of leukemia inhibitory factor and ciliary neurotrophic factor with the different subunits of their high affinity receptors. J. Neurochem. 66: 1391-1399.
7. Rajan, P., et al. 1996. Stat proteins are activated by ciliary neurotrophic factor in cells of central nervous system origin. J. Neurosci. Res. 43: 403-411.

CHROMOSOMAL LOCATION

Genetic locus: CNTF (human) mapping to 11q12.1; Cntf (mouse) mapping to 19 A.

SOURCE

CNTF (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CNTF of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1911 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CNTF (C-18) is recommended for detection of CNTF of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

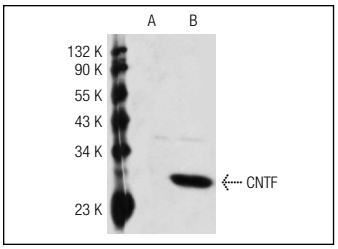
CNTF (C-18) is also recommended for detection of CNTF in additional species, including canine.

Suitable for use as control antibody for CNTF siRNA (h): sc-41921, CNTF siRNA (m): sc-41922, CNTF shRNA Plasmid (h): sc-41921-SH, CNTF shRNA Plasmid (m): sc-41922-SH, CNTF shRNA (h) Lentiviral Particles: sc-41921-V and CNTF shRNA (m) Lentiviral Particles: sc-41922-V.

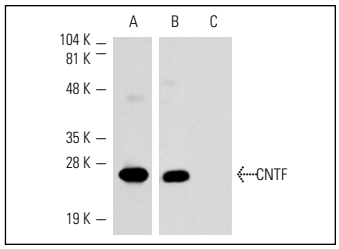
Molecular Weight of CNTF: 22 kDa.

Positive Controls: CNTF (h): 293T Lysate: sc-111465.

DATA



CNTF (C-18): sc-1911. Western blot analysis of CNTF expression in non-transfected: sc-117752 (**A**) and human CNTF transfected: sc-111465 (**B**) 293T whole cell lysates.



Western blot analysis of human (**B**) and rat (**A**,**C**) recombinant CNTF. Antibodies tested include CNTF (R-20): sc-1912 (**A**) and CNTF (C-18): sc-1911 (**B**,**C**).

SELECT PRODUCT CITATIONS

1. Yu, M., et al. 2008. Interleukin-6 cytokine family member oncostatin M is a hair-follicle-expressed factor with hair growth inhibitory properties. Exp. Dermatol. 17: 12-19.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

MONOS Satisfaction Guaranteed

Try **CNTF (A-11): sc-25286** or **CNTF (G-7): sc-166272**, our highly recommended monoclonal aternatives to CNTF (C-18).