

# CNTFR $\alpha$ (C-20): sc-1913

## BACKGROUND

Ciliary neurotrophic factor, or CNTF, is a neurotrophic 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 CNTFR $\alpha$ , a CNTFR-specific chain, and a heterodimer of the gp130 chain common to the IL-6 and LIF receptor and the LIFR $\beta$  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 CNTFR $\alpha$  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.

## CHROMOSOMAL LOCATION

Genetic locus: CNTFR (human) mapping to 9p13.3; Cntfr (mouse) mapping to 4 A5.

## SOURCE

CNTFR $\alpha$  (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CNTFR $\alpha$  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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1913 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

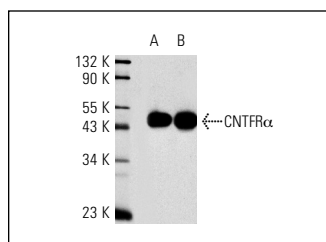
## APPLICATIONS

CNTFR $\alpha$  (C-20) is recommended for detection of CNTFR $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for CNTFR $\alpha$  siRNA (h): sc-35076, CNTFR $\alpha$  siRNA (m): sc-35077, CNTFR $\alpha$  shRNA Plasmid (h): sc-35076-SH, CNTFR $\alpha$  shRNA Plasmid (m): sc-35077-SH, CNTFR $\alpha$  shRNA (h) Lentiviral Particles: sc-35076-V and CNTFR $\alpha$  shRNA (m) Lentiviral Particles: sc-35077-V.

Molecular Weight of CNTFR $\alpha$ : 80 kDa.

## DATA



CNTFR $\alpha$  (C-20): sc-1913. Western blot analysis of human (A) and rat (B) recombinant CNTFR $\alpha$ .

## SELECT PRODUCT CITATIONS

1. Beltran, W.A., et al. 2003. Cloning, mapping, and retinal expression of the canine ciliary neurotrophic factor receptor  $\alpha$  (CNTFR $\alpha$ ). *Invest. Ophthalmol. Vis. Sci.* 44: 3642-3649.
2. 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.



Try **CNTFR $\alpha$  (AN-B2): sc-9993**, our highly recommended monoclonal alternative to CNTFR $\alpha$  (C-20).