

CNTFR α (R-20): sc-1914

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 α , a CNTFR-specific chain, and a heterodimer of the gp130 chain common to the IL-6 and LIF receptor and the LIFR β 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 α 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.

CHROMOSOMAL LOCATION

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

SOURCE

CNTFR α (R-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CNTFR α of rat origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-1914 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

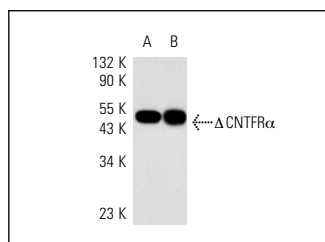
APPLICATIONS

CNTFR α (R-20) is recommended for detection of CNTFR α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

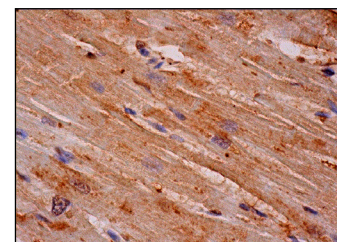
Suitable for use as control antibody for CNTFR α siRNA (h): sc-35076, CNTFR α siRNA (m): sc-35077, CNTFR α shRNA Plasmid (h): sc-35076-SH, CNTFR α shRNA Plasmid (m): sc-35077-SH, CNTFR α shRNA (h) Lentiviral Particles: sc-35076-V and CNTFR α shRNA (m) Lentiviral Particles: sc-35077-V.

Molecular Weight of CNTFR α : 80 kDa.

DATA



CNTFR α (R-20): sc-1914. Western blot analysis of truncated human (A) and truncated rat (B) recombinant CNTFR α .



CNTFR α (R-20): sc-1914. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Beltran, W.A., et al. 2003. Cloning, mapping, and retinal expression of the canine ciliary neurotrophic factor receptor α (CNTFR α). *Invest. Ophthalmol. Vis. Sci.* 44: 3642-3649.
2. Chojnacki, A., et al. 2003. Glycoprotein 130 signaling regulates Notch 1 expression and activation in the self-renewal of mammalian forebrain neural stem cells. *J. Neurosci.* 23: 1730-1741.
3. Garcia, N., et al. 2012. Exogenous ciliary neurotrophic factor (CNTF) reduces synaptic depression during repetitive stimulation. *J. Peripher. Nerv. Syst.* 17: 312-323.
4. Vernerey, J., et al. 2013. Ciliary neurotrophic factor controls progenitor migration during remyelination in the adult rodent brain. *J. Neurosci.* 33: 3240-3250.

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Try **CNTFR α (AN-B2): sc-9993**, our highly recommended monoclonal alternative to CNTFR α (R-20).