

CNTFR α (AN-B2): sc-9993

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 (AN-B2) is a mouse monoclonal antibody raised against full length CNTFR α transfected Sf21 cells of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CNTFR α (AN-B2) is available conjugated to agarose (sc-9993 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9993 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9993 PE), fluorescein (sc-9993 FITC), Alexa Fluor[®] 488 (sc-9993 AF488), Alexa Fluor[®] 546 (sc-9993 AF546), Alexa Fluor[®] 594 (sc-9993 AF594) or Alexa Fluor[®] 647 (sc-9993 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-9993 AF680) or Alexa Fluor[®] 790 (sc-9993 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

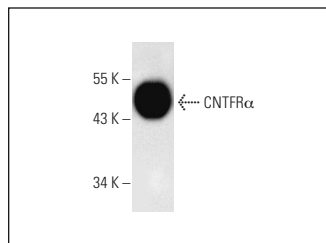
CNTFR α (AN-B2) is recommended for detection of CNTFR α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CNTFR α (AN-B2) is also recommended for detection of CNTFR α in additional species, including canine.

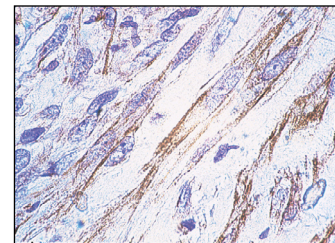
Suitable for use as control antibody for CNTFR α siRNA (h): sc-35076, CNTFR α siRNA (m): sc-35077, CNTFR α shRNA Plasmid (h): sc-35076-SH, CNTFR α shRNA Plasmid (m): sc-35077-SH, CNTFR α shRNA (h) Lentiviral Particles: sc-35076-V and CNTFR α shRNA (m) Lentiviral Particles: sc-35077-V.

Molecular Weight of CNTFR α : 80 kDa.

DATA



CNTFR α (AN-B2): sc-9993. Western blot analysis of human recombinant CNTFR α .



CNTFR α (AN-B2): sc-9993. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon carcinoma showing membrane localization.

SELECT PRODUCT CITATIONS

1. Buk, D.M., et al. 2004. Polarity and lipid raft association of the components of the ciliary neurotrophic factor receptor complex in Madin-Darby canine kidney cells. *J. Cell Sci.* 117: 2063-2075.
2. Qi, H., et al. 2007. Patterned expression of neurotrophic factors and receptors in human limbal and corneal regions. *Mol. Vis.* 13: 1934-1941.
3. Fan, K., et al. 2017. Hypomethylation of CNTFR α is associated with proliferation and poor prognosis in lower grade gliomas. *Sci. Rep.* 7: 7079.
4. Gao, B., et al. 2022. Discovery and application of postnatal nucleus pulposus progenitors essential for intervertebral disc homeostasis and degeneration. *Adv. Sci.* 9: e2104888.

RESEARCH USE

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

PROTOCOLS

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