

CNTF (A-11): sc-25286



The Power to Question

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.
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.

CHROMOSOMAL LOCATION

Genetic locus: CNTF (human) mapping to 11q12.1.

SOURCE

CNTF (A-11) is a mouse monoclonal antibody raised against amino acids 1-200 representing full length CNTF of human origin.

PRODUCT

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

CNTF (A-11) is available conjugated to agarose (sc-25286 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-25286 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-25286 PE), fluorescein (sc-25286 FITC), Alexa Fluor[®] 488 (sc-25286 AF488), Alexa Fluor[®] 546 (sc-25286 AF546), Alexa Fluor[®] 594 (sc-25286 AF594) or Alexa Fluor[®] 647 (sc-25286 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-25286 AF680) or Alexa Fluor[®] 790 (sc-25286 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

CNTF (A-11) is recommended for detection of CNTF of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), 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 CNTF siRNA (h): sc-41921, CNTF shRNA Plasmid (h): sc-41921-SH and CNTF shRNA (h) Lentiviral Particles: sc-41921-V.

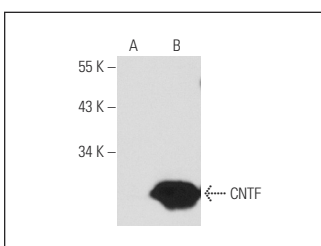
Molecular Weight of CNTF: 22 kDa.

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

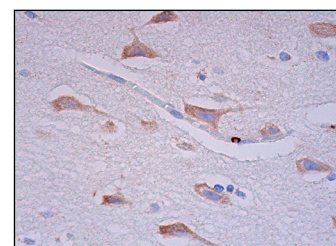
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CNTF (A-11): sc-25286. Western blot analysis of CNTF expression in non-transfected: sc-117752 (A) and human CNTF transfected: sc-111465 (B) 293T whole cell lysates.



CNTF (A-11): sc-25286. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells and glial cells.

SELECT PRODUCT CITATIONS

1. Song, C.H., et al. 2009. Effect of transplantation of bone marrow-derived mesenchymal stem cells on mice infected with prions. *J. Virol.* 83: 5918-5927.

RESEARCH USE

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

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