SANTA CRUZ BIOTECHNOLOGY, INC.

CNTF (A-11): sc-25286

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.

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 µg 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 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-25286 HRP), 200 µg/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 µg/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 µg/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 µg per 100-500 µg 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.

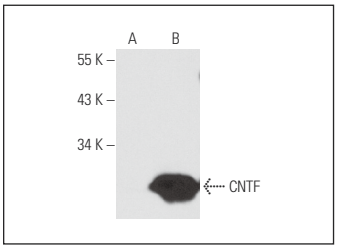
Molecular Weight of CNTF: 22 kDa.

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

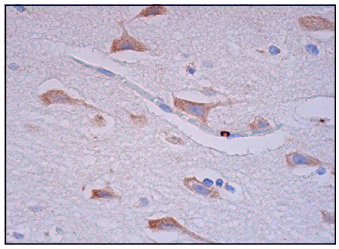
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ 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.