SANTA CRUZ BIOTECHNOLOGY, INC.

CNTF (h): 293T Lysate: sc-111465

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., Chen, J., Ao, S. and Lu, C. 1995. Preparation and a structure-function analysis of human ciliary neurotrophic factor. Neurosci. Res. 23: 327-333.
2. Saggio, I., Gloaguen, I., Poiana, G. and Laufer, R. 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., Graziani, R., Laufer, R., Ciliberto, G. and Paonessa, G. 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., King, A.W., Lane, R.J. and de Belleroche, J.S. 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., Vejsada, R., Poueymirou, W.T., Acheson, A., Suri, C., Conover, J.C., Friedman, B., McClain, J., Pan, L., Stahl, N., Ip, N.Y. and Yancopoulos, G.D. 1995. Mice lacking the CNTF receptor, unlike mice lacking CNTF, exhibit profound motor neuron deficits at birth. Cell 83: 313-322.
6. Robledo, O., Auguste, P., Coupey, L., Praloran, V., Chevalier, S., Pouplard, A. and Gascan, H. 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.
7. Rajan, P., Symes, A.J. and Fink, J.S. 1996. Stat proteins are activated by ciliary neurotrophic factor in cells of central nervous system origin. J. Neurosci. Res. 43: 403-411.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

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

PRODUCT

CNTF (h): 293T Lysate represents a lysate of human CNTF transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CNTF (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CNTF antibodies. Recommended use: 10-20 µl per lane.

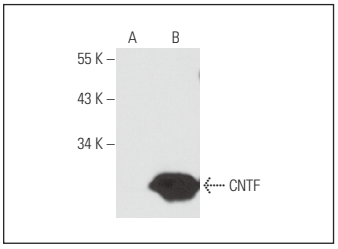
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CNTF (A-11): sc-25286 is recommended as a positive control antibody for Western Blot analysis of enhanced human CNTF expression in CNTF transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

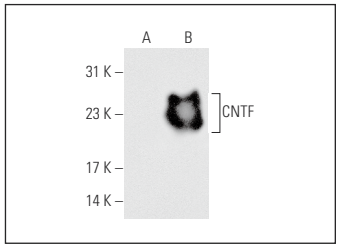
RECOMMENDED SUPPORT REAGENTS

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.

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 (C-12): sc-166273. Western blot analysis of CNTF expression in non-transfected: sc-117752 (**A**) and human CNTF transfected: sc-111465 (**B**) 293T whole cell lysates.

RESEARCH USE

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