

NGF (NGF30): sc-32300

BACKGROUND

Neurotrophins function to regulate naturally occurring cell death of neurons during development. The prototype neurotrophin is nerve growth factor (NGF), originally discovered in the 1950s as a soluble peptide promoting the survival of, and neurite outgrowth from, sympathetic ganglia. Three additional structurally homologous neurotrophic factors have been identified. These include brain-derived neurotrophic factor (BDNF), neurotrophin-3 (NT-3) and neurotrophin-4 (NT-4) (also designated NT-5). These various neurotrophins stimulate the *in vitro* survival of distinct, but partially overlapping, populations of neurons. The cell surface receptors through which neurotrophins mediate their activity have been identified. For instance, the Trk A receptor is the preferential receptor for NGF, but also binds NT-3 and NT-4. The Trk B receptor binds both BDNF and NT-4 equally well, and binds NT-3 to a lesser extent, while the Trk C receptor only binds NT-3.

REFERENCES

- Oppenheim, R.W., et al. 1991. Cell death during development of the nervous system. *Annu. Rev. Neurosci.* 14: 453-501.
- Thoenen, H., et al. 1991. The changing scene of neurotrophic factors. *Trends Neurosci.* 14: 165-170.
- Chao, M.V., et al. 1992. Neurotrophin receptors: a window into neuronal differentiation. *Neuron* 9: 583-593.
- Ip, N.Y., et al. 1993. Similarities and differences in the way neurotrophins interact with the Trk receptors in neuronal and nonneuronal cells. *Neuron* 10: 137-149.

CHROMOSOMAL LOCATION

Genetic locus: *Ngf* (mouse) mapping to 3 F2.2.

SOURCE

NGF (NGF30) is a rat monoclonal antibody raised against mouse NGF.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

NGF (NGF30) is recommended for detection of native and denatured NGF of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for NGF siRNA (m): sc-45783, NGF shRNA Plasmid (m): sc-45783-SH and NGF shRNA (m) Lentiviral Particles: sc-45783-V.

Molecular Weight of mature NGF: 13 kDa.

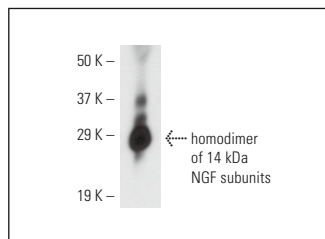
Molecular Weight of NGF precursor: 27 kDa.

Positive Controls: mouse brain extract: sc-2253.

STORAGE

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

DATA



NGF (NGF30): 32300. Western blot analysis of mouse recombinant NGF.

SELECT PRODUCT CITATIONS

- Liu, W.F., et al. 2012. CD146 expression correlates with epithelial-mesenchymal transition markers and a poor prognosis in gastric cancer. *Int. J. Mol. Sci.* 13: 6399-6406.
- Su, Y., et al. 2013. The effects of hematopoietic growth factors on neurite outgrowth. *PLoS ONE* 8: e75562.
- Lin, H., et al. 2021. Nerve growth factor regulates liver cancer cell polarity and motility. *Mol. Med. Rep.* 23: 1-8.
- D'Amico, R., et al. 2021. Inhibition of P2X7 purinergic receptor ameliorates fibromyalgia syndrome by suppressing NLRP3 pathway. *Int. J. Mol. Sci.* 22: 6471.
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- Genovese, T., et al. 2022. Molecular and biochemical mechanism of cannabidiol in the management of the inflammatory and oxidative processes associated with endometriosis. *Int. J. Mol. Sci.* 23: 5427.
- Cordaro, M., et al. 2022. Role of etanercept and infliximab on nociceptive changes induced by the experimental model of fibromyalgia. *Int. J. Mol. Sci.* 23: 6139.
- Marino, Y., et al. 2023. Analysis of the influence of IL-6 and the activation of the Jak/Stat3 pathway in fibromyalgia. *Biomedicines* 11: 792.
- Tai, Y., et al. 2023. Enhanced peripheral nerve regeneration by mechano-electrical stimulation. *NPJ Regen. Med.* 8: 57.

RESEARCH USE

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



See **NGF (E-12): sc-365944** for NGF antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.