

NGF (G-14): sc-33899

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

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2. Thoenen, H., et al. 1991. The changing scene of neurotrophic factors. *Trends Neurosci.* 14: 165-170.
3. Chao, M.V., et al. 1992. Neurotrophin receptors: a window into neuronal differentiation. *Neuron* 9: 583-593.
4. Korsching, S., et al. 1993. The neurotrophic factor concept: a reexamination. *J. Neurosci.* 13: 2739-2748.
5. 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.
6. Klein, R., et al. 1994. Role of neurotrophins in mouse neuronal development. *FASEB J.* 8: 738-744.
7. Götz, R., et al. 1994. The conservation of neurotrophic factors during vertebrate evolution. *Comp. Biochem. Physiol.* 108: 1-10.

CHROMOSOMAL LOCATION

Genetic locus: NGF (human) mapping to 1p13.2; Ngf (mouse) mapping to 3 F2.2.

SOURCE

NGF (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NGF of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-33899 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

NGF (G-14) is recommended for detection of NGF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NGF (G-14) is also recommended for detection of NGF in additional species, including equine, canine and porcine.

Suitable for use as control antibody for NGF siRNA (h): sc-43970, NGF siRNA (m): sc-45783, NGF shRNA Plasmid (h): sc-43970-SH, NGF shRNA Plasmid (m): sc-45783-SH, NGF shRNA (h) Lentiviral Particles: sc-43970-V and NGF shRNA (m) Lentiviral Particles: sc-45783-V.

Molecular Weight of NGF precursor: 27 kDa.

Molecular Weight of mature NGF: 13 kDa.

Positive Controls: mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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



Try **NGF (E-12): sc-365944** or **NGF (NGF30): sc-32300**, our highly recommended monoclonal alternatives to NGF (G-14). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **NGF (E-12): sc-365944**.