

## NGF (H-20): sc-548



The Power to Question

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

NGF (H-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of the mature chain of human NGF.

## 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-548 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NGF (H-20) is recommended for detection of NGF precursor and mature forms of mouse, rat and human 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)], 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 (H-20) is also recommended for detection of NGF precursor and mature forms in additional species, including equine, canine, bovine 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 mature NGF: 13 kDa.

Molecular Weight of precursor NGF: 27 kDa.

Positive Controls: mouse brain extract: sc-2253, NGF (h): 293T Lysate: sc-115152 or NGF (m2): 293 Lysate: sc-179001.

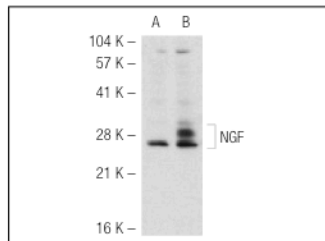
## RESEARCH USE

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

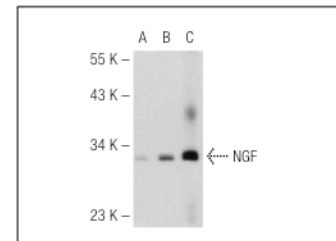
## STORAGE

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

## DATA



NGF (H-20): sc-548. Western blot analysis of NGF expression in non-transfected: sc-117752 (A) and human NGF transfected: sc-115152 (B) 293T whole cell lysates.



NGF (H-20): sc-548. Western blot analysis of NGF expression in non-transfected: sc-110760 (A) and mouse NGF transfected: sc-179001 (B) 293 whole cell lysates and mouse brain tissue extract (C).

## SELECT PRODUCT CITATIONS

- Boven, L.A., et al. 1999. Overexpression of nerve growth factor and basic fibroblast growth factor in AIDS dementia complex. *J. Neuroimmunol.* 97: 154-162.
- Toma, H., et al. 2000. Nerve growth factor expression is up-regulated in the rat model of L-arginine-induced acute pancreatitis. *Gastroenterol.* 119: 1373-1381.
- Sanchis-Alfonso, V., et al. 2001. Neural growth factor expression in the lateral retinaculum in painful patellofemoral malalignment. *Acta Orthop. Scand.* 72: 146-149.
- Dolle, L., et al. 2003. Nerve growth factor overexpression and autocrine loop in breast cancer cells. *Oncogene* 22: 5592-5601.
- Toti, P., et al. 2003. Nerve growth factor expression in human dystrophic muscles. *Muscle Nerve* 27: 370-3.
- Marinova, T., et al. 2003. Cellular localization of NGF and NGF receptors in aged human thymus. *Folia Biol.* 49: 160-164.
- Maruccio, L., et al. 2004. Neurotrophin and Trk receptor-like immunoreactivity in the frog gastrointestinal tract. *Histol. Histopathol.* 19: 349-356.
- Harrington, A.W., et al. 2004. Secreted proNGF is a pathophysiological death-inducing ligand after adult CNS injury. *Proc. Natl. Acad. Sci. USA* 101: 6226-6230.
- Bruno, M.A., et al. 2006. Activity-dependent release of precursor nerve growth factor, conversion to mature nerve growth factor, and its degradation by a protease cascade. *Proc. Natl. Acad. Sci. USA* 103: 6735-6740.
- Davis-López de Carrizosa, M.A., et al. 2010. Nerve growth factor regulates the firing patterns and synaptic composition of motoneurons. *J. Neurosci.* 30: 8308-8319.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.