SANTA CRUZ BIOTECHNOLOGY, INC.

NGF (H-20): sc-548

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: NGF (human) mapping to 1p13.2; Ngf (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 mature NGF of human origin.

PRODUCT

Each vial contains 100 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 NGF precursor: 27 kDa.

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

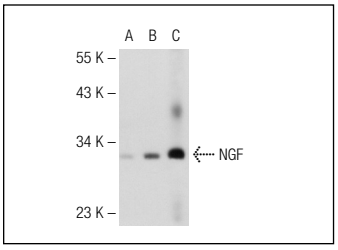
RESEARCH USE

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

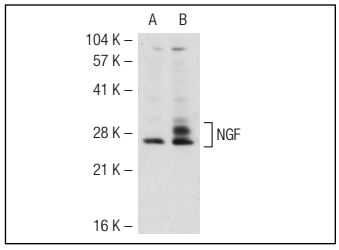
STORAGE

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-110760 (**A**) and mouse NGF transfected: sc-179001 (**B**) 293 whole cell lysates and mouse brain tissue extract (**C**).



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.

SELECT PRODUCT CITATIONS

1. 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.
2. Saygili, E., et al. 2011. Sympathetic neurons express and secrete MMP-2 and MT1-MMP to control nerve sprouting via pro-NGF conversion. Cell. Mol. Neurobiol. 31: 17-25.
3. Arnold, J., et al. 2011. Imbalance between sympathetic and sensory innervation in peritoneal endometriosis. Brain Behav. Immun. 26: 132-141.
4. Fukamachi, S., et al. 2011. Modulation of semaphorin 3A expression by calcium concentration and histamine in human keratinocytes and fibroblasts. J. Dermatol. Sci. 61: 118-123.
5. Demont, Y., et al. 2012. Pro-nerve growth factor induces autocrine stimulation of breast cancer cell invasion through tropomyosin-related kinase A (TrkA) and sortilin protein. J. Biol. Chem. 287: 1923-1931.
6. Saygili, E., et al. 2012. Age-related regional differences in cardiac nerve growth factor expression. Age 34: 659-667.
7. Arnold, J., et al. 2012. Neuroimmunomodulatory alterations in non-lesional peritoneum close to peritoneal endometriosis. Neuroimmunomodulation 20: 9-18.
8. Barcena de Arellano, M.L., et al. 2012. Neurotrophin expression is not affected in uteri of women with adenomyosis. J. Mol. Neurosci. 47: 495-504.