



NT-3 (J1407): sc-80250

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

1. Oppenheim, R.W. 1991. Cell death during development of the nervous system. *Annu. Rev. Neurosci.* 14: 453-501.
2. Thoenen, H. 1991. The changing scene of neurotrophic factors. *Trends Neurosci.* 14: 165-170.
3. Chao, K.K., Cheung, E., Armstrong, W.B. and Wong, B.J. 1992. Neurotrophin receptors: a window into neuronal differentiation. *Neuron* 9: 583-593.
4. Korsching, S. 1993. The neurotrophic factor concept: a reexamination. *J. Neurosci.* 13: 2739-2748.
5. Ip, N.Y., Stitt, T.N., Tapley, P., Klein, R., Glass, D.J., Fandl, J., Greene, L.A., Barbacid, M. and Yancopoulos, G.D. 1993. Similarities and differences in the way neurotrophins interact with the Trk receptors in neuronal and non-neuronal cells. *Neuron* 10: 137-149.
6. Klein, R. 1994. Role of neurotrophins in mouse neuronal development. *FASEB J.* 8: 738-744.
7. Gotz, R. and Schartl, M. 1994. The conservation of neurotrophic factors during vertebrate evolution. *Comp. Biochem. Physiol.* 108: 1-10.

CHROMOSOMAL LOCATION

Genetic locus: NTF3 (human) mapping to 12p13.31.

SOURCE

NT-3 (J1407) is a mouse monoclonal antibody raised against amino acids 139-257 of NT-3 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer. Also available azide-free for neutralization, sc-80250 L, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

NT-3 (J1407) is recommended for detection of NT-3 of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NT-3 siRNA (h): sc-42125, NT-3 shRNA Plasmid (h): sc-42125-SH and NT-3 shRNA (h) Lentiviral Particles: sc-42125-V.

Molecular Weight of NT-3: 35 kDa.

SELECT PRODUCT CITATIONS

1. Micera, A., Jirsova, K., Esposito, G., Balzamino, B.O., Di Zazzo, A. and Bonini, S. 2020. Mast cells populate the corneoscleral limbus: new insights for our understanding of limbal microenvironment. *Invest. Ophthalmol. Vis. Sci.* 61: 43.

RESEARCH USE

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

PROTOCOLS

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