

NT-3 (hBA-119): sc-4942

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 equally well both BDNF and NT-4, and to a lesser extent NT-3, while the Trk C receptor only binds NT-3.

REFERENCES

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SOURCE

NT-3 (hBA-119) is produced in *E. coli* as 40 kDa biologically active tagged fusion protein corresponding to 119 amino acids of NT-3 of human origin.

PRODUCT

NT-3 (hBA-119) is purified from bacterial lysates (>98%); supplied as 50 µg purified protein.

BIOLOGICAL ACTIVITY

NT-3 (hBA-119) is biologically active as determined by the dose-dependent induction of choline acetyl transferase activity in rat basal forebrain primary septal cell cultures in the range of 20–50 ng/ml.

RESEARCH USE

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

RECONSTITUTION

In order to avoid freeze/thaw damaging of the active protein, dilute protein when first used to desired working concentration. Either a sterile filtered standard buffer (such as 50mM TRIS or 1X PBS) or water can be used for the dilution. Store any thawed aliquot in refrigeration at 2° C to 8° C for up to four weeks, and any frozen aliquot at -20° C to -80° C for up to one year. It is recommended that frozen aliquots be given an amount of standard cryopreservative (such as Ethylene Glycol or Glycerol 5-20% v/v), and refrigerated samples be given an amount of carrier protein (such as heat inactivated FBS or BSA to 0.1% v/v) or non-ionic detergent (such as Triton X-100 or Tween 20 to 0.005% v/v), to aid stability during storage.

STORAGE

Store desiccated at -20° C; stable for one year from the date of shipment.

PROTOCOLS

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