



Recombinant Human Neurotrophin-4 (rhNT-4)

Catalog #107-04

Product Description

Neurotrophin-4 (NT-4) is a member of the nerve growth factor (NGF) family of neuronal and epithelial growth factors. Like other neurotrophins, NT-4 contains six conserved cysteine residues that form three disulfide bonds essential for its structural stability. Human NT-4 shares 48–52% amino acid sequence identity with human β -NGF, BDNF, and NT-3, and exhibits high sequence conservation with rodent homologs, sharing 91% and 95% identity with mouse and rat NT-4/5, respectively. The mature NT-4 protein is secreted as a homodimer and can also form heterodimers with BDNF or NT-3. NT-4 binds to the TrkB receptor, inducing receptor dimerization and downstream signaling activation. Through TrkB signaling, NT-4 supports the development and survival of specific populations of peripheral and central nervous system neurons. NT-4-mediated TrkB activation enhances NMDA receptor activity and increases neuronal sensitivity to excitotoxic cell death. In addition to its neuronal functions, NT-4 promotes keratinocyte proliferation and accelerates hair follicle regression during the follicular cycle. NT-4 is also secreted by activated T cells and granulocytes at sites of inflammation, where it contributes to tissue regeneration.

Specifications

Synonyms:	NT-5, GLC10, GLC10, NT-4/5
AA Sequence:	GVSETAPASR RGELAVCDAV SGWVTDRRTA VDLRGREVEV LGEVPAAGGS PLRQYFFETR CKADNAEEGG PGAGGGGCRG VDRRHVWSEC KAKQSYVRAL TADAQGRVGW RWIRIDTACV CTLLSRTGRA
Source:	<i>E. coli</i>
Molecular Weight:	13.9 kDa

Quality Control

Purity	> 95%
Physical Appearance:	White lyophilized powder.
Endotoxin:	<0.1 ng/ μ g of protein (<1 EU/ μ g)

Formulation

Lyophilized from a 0.2 μ m filtered concentrated solution in 20 mM Tris-HCl pH7.5 and 300 mM NaCl with dextran as protectant.

Rev. 0

Reconstitution

Reconstitute in sterile distilled water or 1x PBS containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL.

Shipping and Storage

Gel pack. Upon receipt, store at -20°C after receiving. Upon reconstitution, store at 2-8°C for up to one week. For maximal stability, aliquot and store at -20°C. Avoid repeated freeze/ thaw cycles.

Usage

rhNT-4 is for research use only. It is not approved for human or animal use, or for application in clinical or *in vitro* diagnostic procedures.