

**Recombinant Human Neurotrophin-4
(rhNT-4)
Catalog Number: 107-04**

Description	Neurotrophin-4 (NT-4) is a member of the NGF family of neuronal and epithelial growth factors. Neurotrophins have six conserved cysteine residues that are involved in the formation of three disulfide bonds. Human NT-4 shares 48 - 52% amino acid (aa) sequence identity with human beta-NGF, BDNF, and NT-3. It shares 91% and 95% aa sequence identity with mouse and rat NT-4/5, respectively. The mature protein is secreted as a homodimer and can also form heterodimers with BDNF or NT-3. NT-4 binds and induces receptor dimerization and activation of TrkB. NT-4 promotes the development and survival of selected peripheral and CNS neurons. NT-4 induced TrkB signaling augments NMDA receptor activity and increases neuronal sensitivity to excitotoxic cell death. It also promotes the proliferation of keratinocytes and accelerates hair follicle regression during the follicular cycle. NT-4 is secreted by activated T cells and granulocytes at sites of inflammation where it contributes to tissue regeneration.
Synonyms	NT-5, GLC10, GLC1O, NT-4/5
AA Sequence	GVSETAPASR R GELAVCDAV SGWVTD RRTA VDLRGREVEV LGEVPAAGGS PLRQYFFETRC KADNAEEGGP GAGGGGCRGV DRRHWVSECK AKQSYVRALT ADAQGRVGWR WIRIDTACVC TLLSRTGRA
Source	<i>Escherichia coli</i>
Molecular Weight	Approximately 28 kDa, a noncovalently linked homodimer of two 14.0 kDa polypeptide monomers (260 total amino acid residues).
Purity	>97% by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active. The ED ₅₀ is 20-50ng/ml, as determined by choline acetyl transferase activity in rat basal forebrain primary septal cell cultures
Physical Appearance	White lyophilized powder.
Formulation	Lyophilized from a 0.2µm filtered concentrated (0.5mg/ml) solution in 20mM PB, pH 7.4, 150mM NaCl.
Endotoxin	< 1EU/µg of growth factor as determined by LAL method.
Reconstitution	Reconstitute in sterile distilled water containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL.
Storage	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	This product is for research use only. It is not approved for use in humans, animals, or <i>in vitro</i> diagnostic procedures.