

Cytokines

Human Recombinant NT-4



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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

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Neurotrophin 4

Catalog # 78093
78093.1

10 µg
100 µg

Product Description

Neurotrophin-4 (NT-4) is a member of the nerve growth factor family which includes neurotrophin-3 (NT-3), brain-derived neurotrophic factor (BDNF), and nerve growth factor (NGF), all of which promote the differentiation, growth, and survival of peripheral and central nervous system neurons (Eide et al.). NT-4 binds and activates tropomyosin receptor kinase B (TrkB) at the cell surface; in doing so, it acts as a survival factor for certain populations of sensory neurons (Berkemeier et al.; Skaper). It has been shown that NT-4, together with BDNF, promotes neurite extension and maturation, as well as maintenance of differentiated cerebellar granule cells (Gao et al.).

Product Information

Alternative Names: GLC10, GLC1O, Neurotrophic factor 4, Neurotrophic factor 5, Neurotrophin-5, NT-4/5, NT-5, NTF4, NTF5
Accession Number: P34130
Amino Acid Sequence: MGVSETAPAS RRGELAVCDA VSGWVTD RRT AVDLRGREVE VLGEVPAAGG SPLRQYFFET RCKADNAEEG GPGAGGGGGR GVDRRHVVSE CKAKQSYVRA LTADAQGRVG WRWIRIDTAC VCTLLSRTGR A
Predicted Molecular Mass: 14.0 kDa monomer; 28.1 kDa dimer
Species: Human
Cross Reactivity: Mouse, Rat
Formulation: Lyophilized from a sterile-filtered aqueous solution containing 0.1% trifluoroacetic acid.
Source: E. coli

Specifications

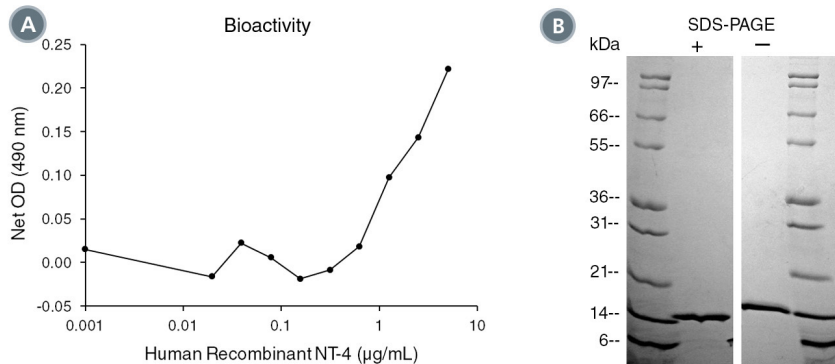
Activity: The specific activity is $\geq 3.3 \times 10^2$ units/mg ($EC_{50} \leq 3.0 \mu\text{g/mL}$) as determined by a cell proliferation assay using C6 cells.
Purity: $\geq 95\%$
Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/ μg protein.

Preparation and Storage

Storage: Store at -20°C to -80°C .
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at $2 - 8^\circ\text{C}$ for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant NT-4 was tested by its ability to promote the proliferation of C6 cells. Cell proliferation was measured after 7 days of culture using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC₅₀ in the above example is 1.6 µg/mL.

(B) 1 µg of Human Recombinant NT-4 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant NT-4 is a homodimer of 14 kDa subunits with a predicted total molecular mass of 28.1 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

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- Eide FF et al. (1993) Neurotrophins and their receptors--current concepts and implications for neurologic disease. *Exp Neurol* 121(2): 200–14.
- Gao WQ et al. (1995) Neurotrophin-4/5 (NT-4/5) and brain-derived neurotrophic factor (BDNF) act at later stages of cerebellar granule cell differentiation. *J Neurosci* 15(4): 2656–67.
- Skaper SD. (2008) The biology of neurotrophins, signalling pathways, and functional peptide mimetics of neurotrophins and their receptors. *CNS Neurol Disord Drug Targets* 7(1): 46–62.

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