

## Cytokines

### Human Recombinant NT-4



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#### Neurotrophin 4

Catalog #	78093	10 µg
	78093.1	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; and in doing so, acts as a survival factor for certain populations of sensory neurons (Skaper; Berkemeier et al.). It has been shown that NT-4 together with BDNF promote neurite extension and maturation, and maintenance of differentiated cerebellar granule cells (Gao et al.).

## Product Information

Alternative Names:	GLC10, GLC1O, Neurotrophin-5, Neutrophic factor 4, Neutrophic factor 5, NT-4/5, NT-5, NTF4, NTF5
Accession Number:	P34130
Amino Acid Sequence:	MGVSETAPAS RRGELAVCDA VSGWVTDRRT AVDLRGREVE VLGEVPAAGG SPLRQYFFET RCKADNAEEG GPGAGGGGGR GVDRRHVWSE 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

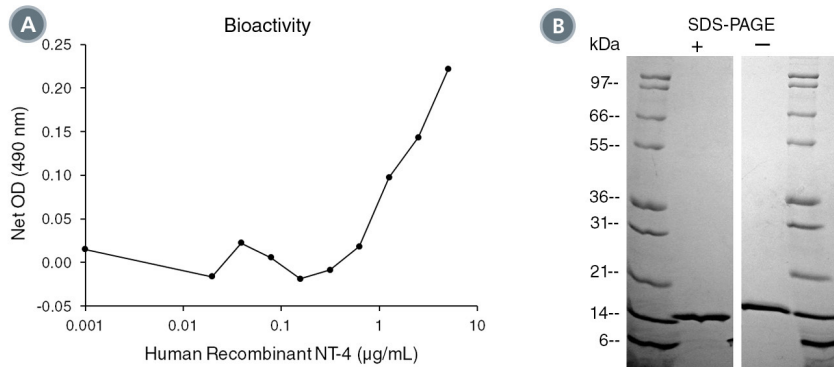
## Specifications

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 of C6 cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic limulus amebocyte lysate (LAL) analysis and is $\leq 1$ EU/ $\mu\text{g}$ 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. Resuspend the product in sterile water containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles. NOTE: If reconstituted product will be used immediately BSA is not required.

## 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 example above 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

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## 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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