

Neurotrophin-4, Human, Recombinant

Neurotrophin-4

Catalog #02509

5 µg



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Product Description

Neurotrophin-4 (NT-4) is a member of the nerve growth factor (NGF) family of neurotrophins. It binds the TrkB receptor and acts as a survival factor for sensory neurons, although it has also been shown to sensitize cortical neurons to cell death.¹ Together with other NGF family members NT-3 and BDNF, NT-4 has been described as a survival factor for human embryonic stem (ES) cells.² The mature recombinant NT-4 has a predicted molecular mass of approximately 14 kDa, and is 130 amino acids in length, which is generated by the proteolytic removal of the signal sequence and propeptide. It shares 91% and 95% amino acid sequence identity with mouse and rat NT-4/5, respectively.

Predicted Molecular Mass: 14 kDa

Formulation: Lyophilized from a sterile-filtered solution in 30% acetonitrile plus 0.1% TFA containing 50 µg of bovine serum albumin per 1 µg as a carrier protein.

Source: The DNA sequence was inserted in a baculovirus expression vector and expressed in *Spodoptera frugiperda*, Sf 21 insect cells.

Specifications

Activity: The ED50 is typically 0.3 - 3 ng/mL as determined by its ability to stimulate proliferation of BaF-TrkB-BD cells.

Purity: > 97% as determined by SDS-PAGE and visualized by silver stain.

Endotoxin Level: Measured by kinetic limulus amoebocyte lysate (LAL) analysis and is < 1.0 EU/µg protein.

Preparation and Storage

Stability and Storage: The lyophilized sample is stable at -20°C to -70°C for up to 12 months from date of receipt.

Reconstituted NT-4 can be stored under sterile conditions at 2 - 8°C for 1 month or at -20°C to -70°C for 3 months in a manual defrost freezer without detectable loss of activity.

Avoid repeated freezing and thawing.

Reconstitution: Centrifuge vial before opening. Resuspend the product in sterile phosphate-buffered saline containing at least 0.1% BSA or human serum albumin (HSA) to a concentration of no less than 50 µg/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 -70°C for up to 3 months. Avoid repeated freeze-thaw cycles.

References

1. Reichardt LF. (2006) Neurotrophin-regulated signalling pathways. *Philos Trans R Soc Lond B Biol Sci* 361(1473): 1545–64.
2. Pyle AD et al. (2006) Neurotrophins mediate human embryonic stem cell survival. *Nat Biotechnol* 24(3): 344–50.

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