Neurotrophin-3 Human Recombinant

Introduction

NT3 a member of the neurotrophin family, that controls survival and differentiation of mammalian neurons. This protein is closely related to both nerve growth factor and brain-derived neurotrophic factor. It may be involved in the maintenance of the adult nervous system, and may affect development of neurons in the embryo when it is expressed in human placenta. NTF3-deficient mice generated by gene targeting display severe movement defects of the limbs. The mature peptide of this protein is identical in all mammals examined including human, pig, rat and mouse.

Product Description

Catalogue Number  BWV300; BWV301
Synonyms  Neurotrophic factor, Nerve growth factor-2, NGF-2, HDNF, NT-3.
Description  Neurotrophin-3 Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 119 amino acids and having a molecular mass of 13606.29 Dalton. The NT-3 is purified by proprietary chromatographic techniques.
Source  Escherichia Coli.
Physical Appearance  Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation  Lyophilized from 0.02% TFA.
Solubility  It is recommended to reconstitute the lyophilized Neurotrophin-3 in sterile 18MΩ-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.
Stability  Lyophilized NGF2 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution NGF-2 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.
Purity  Greater than 97.0% as determined by (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Amino acid sequence  The sequence of the first five N-terminal amino acids was determined and was found to be Tyr-Ala-Glu-His-Lys.
Biological Activity  The ED50 as determined by the dose-dependant induction of choline acetyl transferase in rat basal forebrain primary septal culture was found between 20-50ng/ml corresponding to a Specific Activity of 20,000-50,000IU/mg.
Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 2.165 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).


References

1. **Title**: Generation of Dopamine Neurons with Improved Cell Survival and Phenotype Maintenance Using a Degradation-Resistant Nurr1 Mutant†‡.
   **Publication**: Article first published online: 11 JUN 2009 DOI: 10.1002/stem.146 Copyright © 2009 AlphaMed Press.

2. **Title**: Mash1 and Neurogenin 2 Enhance Survival and Differentiation of Neural Precursor Cells After Transplantation to Rat Brains via Distinct Modes of Action.
   **Publication**: Received 22 May 2008; Accepted 8 August 2008; Published online 9 September 2008.
   **Link**: [http://www.nature.com/mt/journal/v16/n11/full/mt2008189a.html](http://www.nature.com/mt/journal/v16/n11/full/mt2008189a.html)

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