


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 (for a review, see 1). Together with other NGF family members NT-3 and BDNF, NT-4 has been described as a survival factor for human embryonic stem cells (hESC)². Bioactive NT-3 is predicted to be a non-covalently linked homodimer. Mature recombinant NT-3 has a predicted molecular mass of approximately 13.6 kDa, with 119 amino acids following cleavage of the signal peptide and proprotein. The amino acid sequence of mature NT-3 is identical in human, mouse and rat.

CYTOKINES

Product Information Sheet



Version 1.0.0

Recombinant
Human
**NEUROTROPHIN-4
(NT-4)**

Catalog #02509 5 µg/vial

SOURCE:

The DNA sequence encoding the NT-3 prepropeptide³ was inserted in a baculovirus expression vector and expressed in Sf 21 insect cells.

PURITY:

Greater than 97% as determined by SDS-PAGE and visualized by silver stain. Endotoxin level is less than 1.0 EU/µg of NT-4, as determined by the LAL method.

FORMULATION:

Lyophilized from a sterile-filtered solution in 30% acetonitrile plus 0.1% TFA containing 50 µg of bovine serum albumin per 1 µg of NT-4.

RECONSTITUTION:

It is recommended that a stock solution at a concentration of no less than 10 µg/mL be prepared in sterile phosphate buffered saline containing at least 0.1% human or bovine serum albumin.

STABILITY AND STORAGE:

The lyophilized sample is stable for up to 1 year at -20°C to -70°C.

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.

ACTIVITY:

The ED₅₀ of NT-4, as measured by its ability to stimulate proliferation of the TrkB-transfected cell line, BaF-TrkB-BD, is typically 5 - 15 ng/mL.

REFERENCES:

1. Reichardt LF. Neurotrophin-regulated signalling pathways. Philos Trans R Soc Lond B Biol Sci. 361(1473):1545-64, 2006
2. Pyle AD, Lock LF, Donovan PJ. Neurotrophins mediate human embryonic stem cell survival. Nat Biotechnol 24(3):344-50, 2006
3. Jones KR, Reichardt LF. Molecular cloning of a human gene that is a member of the nerve growth factor family. Proc Natl Acad Sci USA 87(20): 8060 - 4, 1990

See Material Safety Data Sheet for more information.

**THIS REAGENT IS FOR RESEARCH ONLY.
IT IS NOT TO BE ADMINISTERED TO HUMANS.**

StemCell Technologies

In North America
Tel: 1.604.877.0713
Fax: 1.604.877.0704
Toll Free Tel: 1.800.667.0322
Toll Free Fax: 1.800.567.2899
e-mail: info@stemcell.com
www.stemcell.com

In the United Kingdom
Tel: +44.(0).20.7691.3561
Fax: +33.(0).4.76.18.99.63
Toll Free within United Kingdom:
Tel: 0800.731.27.14
Fax: 0800.731.27.13
e-mail: info@stemcellgb.com

In Europe
Tel: +33.(0).4.76.04.75.30
Fax: +33.(0).4.76.18.99.63
e-mail: info@stemcellfrance.com

Revised:
June 2007