

DESCRIPTION

Source *Spodoptera frugiperda*, Sf 21 (baculovirus)-derived
Gly81-Ala210
Accession # P34130

N-terminal Sequence Analysis Gly81

Predicted Molecular Mass 14 kDa

SPECIFICATIONS

Activity Measured in a cell proliferation assay using BaF mouse pro-B cells transfected with TrkB.
The ED₅₀ for this effect is 0.3-3 ng/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 50 µg/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Neurotrophin-4 (NT-4), also known as NT-5, is a member of the NGF family of neuronal and epithelial growth factors. Neurotrophins have six conserved cysteine residues that are involved in the formation of three disulfide bonds (1-3). The human NT-4 cDNA encodes a 210 amino acid (aa) precursor that includes a 24 aa signal sequence, a 56 aa propeptide, and a 130 aa mature protein (4, 5). NT-4 is synthesized as a 28 kDa prepropeptide that is proteolytically processed to generate the mature protein. Mature human NT-4 shares 48-52% aa sequence identity with human beta-NGF, BDNF, and NT-3. It shares 91% and 95% aa sequence identity with mouse and rat NT-4/5, respectively. The mature protein is secreted as a homodimer and can also form heterodimers with BDNF or NT-3 (6). NT-4 binds and induces receptor dimerization and activation of TrkB (4, 7). NT-4 promotes the development and survival of selected peripheral and CNS neurons (8-10). BDNF, which also activates TrkB, overlaps with many but not all NT-4 functions, a distinction that is likely due to differences in expression patterns (8-10). NT-4 induced TrkB signaling augments NMDA receptor activity and increases neuronal sensitivity to excitotoxic cell death (11). It also promotes the proliferation of keratinocytes and accelerates hair follicle regression during the follicular cycle (12, 13). NT-4 is secreted by activated T cells and granulocytes at sites of inflammation where it contributes to tissue regeneration (14-16).

References:

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