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ProductInformation

NEURTURIN (NTN)
Human, Recombinant
Expressed in *E. coli*

Product Number **N 6909**

Product Description

Recombinant Human Neurturin (NTN) is produced from a DNA sequence encoding the human neurturin protein[1] and fused with MATVIDHHHHHHHHHHSSNG at the amino terminus. The 121 amino acid residue of native human neurturin is a disulfide-linked homodimer with a calculated monomeric mass of approximately 12.5 kDa. Due to glycosylation, each monomer has a predicted molecular mass of approximately 14 kDa under reducing conditions. Human and mouse neurturin share 91% amino acid sequence identity. Neuturin also shares 42% similarity with glial cell-derived neurotrophic factor (GDNF).

Neurturin (NTN) is a member of the GDNF family of ligands, which includes glial cell-derived neurotrophic factor (GDNF), neurturin, persephin, and artemin. Glial cell line-derived neurotrophic factor and the related neurotrophic factor neurturin exert potent effects on the function and survival of central and peripheral neurons.[1, 2] Neurturin has been cloned from human and mouse.[1, 3] Neurturin is distantly related to the TGF-β superfamily and contains a conserved seven-cysteine motif found in all members of the TGF-β family.

The bioactivities of the GDNF family are mediated through a receptor complex composed of a high affinity ligand-binding component (GFRα1 to GFRα4) and a common signaling component RET receptor tyrosine kinase (RTK).[4, 5, 6, 7] Neurturin prefers to bind GFRα2 but can also bind GFRα1. It activates the RET receptor tyrosine kinase, MAP kinase, and phosphatidylinositol 3-kinase pathways.

Neurturin is widely expressed in both neuronal and non-neuronal tissues and plays an important role in the development and maintenance of the central and peripheral nervous systems.
Human neurturin maps to chromosome 19p13.3.[3]

Reagent

Recombinant Human Neurturin (NTN) is supplied as approximately 25 µg of protein lyophilized from a 0.2 µm filtered solution in 30% acetonitrile and 0.1% TFA containing 1.25 mg of bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 10 µg/ml.

Storage/Stability

Store at –20 °C. Upon reconstitution, store at 2 °C to 8 °C for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

Neurturin is measured by its ability to support the survival and stimulate neurite outgrowth of cultured embryonic chick sympathetic neurons.

The ED_{50} for this effect is typically 15 to 50 ng/ml.

ED_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: > 95% as determined by SDS-Page, visualized by silver stain.

Endotoxin level is < 0.1 ng/µg protein as determined by the LAL (Limulus amebocyte lysate) method.

References

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