

## Neurturin Protein, Human, Recombinant

### General Information

Synonyms:	Neurturin;NRTN
Protein Construction:	Ala96-Val197
Species:	Human
Expression Host:	E. coli
Accession:	Q99748
Molecular Weight:	15 KDa (reducing condition)
AA Sequence:	Ala96-Val197

### QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/μg (1 EU/μg) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Citrate, 6% Sucrose, 4% Mannitol, 0.05% Tween 80, pH 4.0.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Neurturin is a member of the GDNF family of ligands, which include glial cell-derived neurotrophic factor (GDNF), Neurturin, Persephin, and Artemin. Neurturin is expressed in both neuronal and nonneuronal tissues. Similarly to other TGFβ family proteins, Neurturin is synthesized as a precursor protein that is cleaved at the dibasic cleavage site (RXXR) to release the carboxyterminal domain. The carboxy terminal domain of Neurturin contains the characteristic seven conserved cysteine residues necessary for the formation of the cysteine-knot and the single

interchain disulfide bond. Biologically active human Neurturin is a disulfide-linked homodimer of the carboxy-terminal 102 amino acid residues. Unlike other members of TGF- $\beta$  family, bioactivities of all GDNF family ligands are mediated through a unique multicomponent receptor complex composed of high affinity ligand binding component (GFR $\alpha$ -1-GFR $\alpha$ -4) and a common signaling component (cRET receptor tyrosine kinase). Each member of the GDNF family ligands has its preferred binding protein. Neurturin preferentially binds to GFR $\alpha$ -2 but can also bind GFR $\alpha$ -1 at higher concentrations. It may play a role in regulating the development and maintenance of the central and peripheral nervous systems and as well as non neuronal systems.

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