Data Sheet (Cat.No.TMPY-02579)

TargetMol

NRN1 Protein, Human, Recombinant (His)

General Information

Synonyms:	NRN;dJ380B8.2;MGC44811;neuritin 1
Protein Construction:	A DNA sequence encoding the mature form of human NRN1 (Q9NPD7) (Met 1-Asn 115) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Ala 28
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9NPD7
Molecular Weight:	11 kDa (predicted); 11 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 8.0, 10% gly. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. 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

Neuritin 1 (NRN1) is a member of the neuritin family. Neuritin is a glycosylphosphatidylinositol-anchored protein induced by neural activity. It is expressed in postmitotic-differentiating neurons of the developing nervous system and a population of small-diameter neurons in the dorsal root ganglia and was anterogradely and retrogradely transported. Neuritin message is induced by neuronal activity and by the activity-regulated neurotrophins BDNF, nerve growth factor (NGF), and NT-3. Purified recombinant neuritin promotes neurite outgrowth and arborization

in primary embryonic hippocampal and cortical cultures. Thus, neuritin is considered as a downstream effector of activity-induced neurite outgrowth. In clinical, neuritin levels in diabetes were reduced in both dorsal root ganglia and sciatic nerve of rats, and these deficits were reversed in vivo by treatment with NGF. This manipulation of neuritin levels in diabetes may provide a potential target for therapeutic intervention in the management of neuropathy.

Reference

Karamoysoyli E, et al. (2008) Neuritin mediates nerve growth factor-induced axonal regeneration and is deficient in experimental diabetic neuropathy. Diabetes. 57(1): 181-9.

Naeve GS, et al. (1997) Neuritin: A gene induced by neural activity and neurotrophins that promotes neuritogenesis. Proc Natl Acad Sci U S A. 94(6): 2648-2653.

Kojima N, et al. (2005) Expression of neuritin during liver maturation and regeneration. FEBS Lett. 579(21): 4562-6.