

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Gln15-Ser660, with a C-terminal 6-His tag
Accession # EAW90197

N-terminal Sequence Analysis No results obtained: Gln15 predicted

Predicted Molecular Mass 72 kDa

SPECIFICATIONS

SDS-PAGE 85-95 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Recombinant Human Neuroligin 2/NLGN2 is immobilized at 1.5 µg/mL, Recombinant Human Neurexin 1β/NXR1b Fc Chimera (Catalog # 5268-NX) binds with an apparent $K_d < 10$ nM.

Endotoxin Level <0.01 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 400 µg/mL in 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

Neuroligin 2 (NLGN2) is one of several type I transmembrane Neuroligins that are expressed on neuronal postsynaptic densities. Neuroligins play an important role in synaptic development and function (1). Mature human Neuroligin 2 is a 105 kDa protein that consists of a 663 amino acid (aa) extracellular domain (ECD) with a catalytically inactive cholinesterase-like domain, a 21 aa transmembrane segment, and a 137 aa cytoplasmic tail (2, 3). Within the ECD, human Neuroligin 2 shares 98% aa sequence identity with mouse and rat Neuroligin 2. Alternate splicing generates an isoform with a 17 aa insertion at splice site A within the ECD (2). This recombinant protein does not contain the splice site A insert (-SS A). Neuroligin 2 is expressed on neurons in the brain and also on pancreatic β cells where it facilitates insulin secretion (2, 4, 5). The -SS A isoform is uniformly expressed among inhibitory and excitatory synapses, while the +SS A isoform is enriched at inhibitory GABAergic synapses (4, 6, 7). Neuroligin 2 clusters at postsynaptic densities in association with other postsynaptic proteins including S-SCAM, PSD-95, gephyrin, and Neuroligin 3 (4, 8-10). Synaptic maturation is promoted by the binding of Neuroligin 2 with presynaptic Neurexins, and these interactions are restricted to particular combinations of isoforms of the binding partners (11-15). Neuroligin 2 interacts with the α and β forms of Neurexin 1, 2, and 3 (14). Its -SS A and +SS A isoforms are bound equally well by Neurexin 1β isoforms (-SS4 or +SS4), although only the Neurexin 1β +SS4 isoform can induce development of Neuroligin 2-dependent GABAergic contacts (7, 15).

References:

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