

DESCRIPTION

Species Reactivity	Human/Rat
Specificity	Detects human and rat Neuroligin 2/NLGN2 in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Neuroligin 2/NLGN2 Gln15-Ser660 Accession # EAW90197
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.	

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 beta 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 alpha and beta 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).

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