

DESCRIPTION

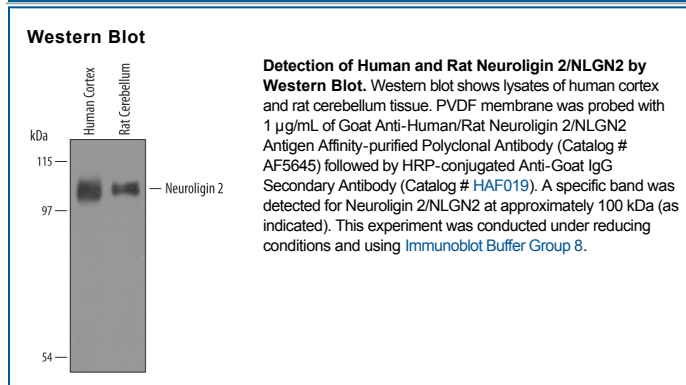
Species Reactivity	Human/Rat
Specificity	Detects human and rat Neuroigin 2/NLGN2 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human (rh) NGLN1, rhNGLN3, and rhNGLN4 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Neuroigin 2/NLGN2 Gln15-Ser660 Accession # EAW90197
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

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.

	Recommended Concentration	Sample
Western Blot	1-3 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 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 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 1 β isoforms (-SS4 or +SS4), although only the Neurexin 1 β +SS4 isoform can induce development of Neuroligin 2-dependent GABAergic contacts (7, 15).

References:

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