Human Neuroligin 4X/NLGN4X Alexa Fluor® 350-conjugated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF5158U
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Neuroligin 4/NLGN4 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human (rh) NLGN3 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Neuroligin 4/NLGN4 Met618-Thr673 Accession # Q8N0W4
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 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.
Immunohistochemistry	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 4 (NLGN4, NL4 or NL4X) is a 110 kDa type I transmembrane glycoprotein that is a member of the type B carboxyesterase/lipase family of proteins (1). Neuroligins are postsynaptically expressed on neurons and initiate excitatory presynapse maturation through binding to select isoforms of β-neurexin (1-3). The 816 amino acid (aa) human NLGN4 contains a 41 aa signal sequence, a 635 aa extracellular domain (ECD), a 21 aa transmembrane domain and a 119 aa cytoplasmic tail. The ECD possesses a nonfunctional esterase homology domain through which neuroligins, except for NLGN2, interact with neurexins (4). Human NLGN4 is found on the X-chromosome. It shares 69%-73% aa identity with NLGNs 1, 2 and 3, and 98% aa identity with NLGN4Y, a Y-chromosome-encoded neuroligin (1). Human NLGN4 ECD shares 62%, 99% and 99% aa identity with mouse, equine and canine NLGN4, respectively (5). Unlike other neuroligins, human NLGN4 does not appear to express alternate splice forms (1, 6). Crystalization of the NLGN4 ECD with and without β-neurexin shows that NLGN4 forms a homodimer via a hydrophobic interface, but interactions with β-neurexin are hydrophilic and calcium-dependent (4, 6). NLGNs 3 and 4 bind syntrophin-γ2 intracellularly (7). Mutations of NLGN4 can be associated with rare cases of autism, Asperger or Tourette syndromes (8-10). Mice with a loss-of-function mutation in NLGN4 show deficits in reciprocal social interactions and communication that are reminiscent of autism spectrum conditions in humans (11).

PRODUCT SPECIFIC NOTICES

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