Rat Agrin Alexa Fluor® 647-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 76805

Catalog Number: FAB550R

100 µg

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat Agrin in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG_1 Clone # 76805
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant rat Agrin Ala1153-Pro1959 (Pro1788-Ser1798 del) Accession # P25304
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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

Agrin is a 400-600 kDa heparan sulfate proteoglycan component of the extracellular matrix. The N-terminal half of rat Agrin, which mediates ECM interactions, contains nine Kazal-type protease inhibitor domains, two Laminin EGF-like domains, and one SEA domain. The C-terminal half contains four EGF-like repeats and three Laminin globular G domains. Human Agrin also contains a Laminin-binding N-terminal Agrin domain (NtA), and mouse and chick Agrin include the NtA domain only by the use of an alternate promoter. Additional isoforms are generated by alternate splicing at sites Y and Z in the C-terminal half of rat Agrin (known as A and B, respectively in chick). Agrin isoforms that contain an insert at site Z (Z+ forms) are known as neural Agrin and are selectively produced by motoneurons. Other isoforms are known as muscle Agrin and are additionally expressed in non-neuronal tissues, particularly in basement membranes of the lung and kidney (1-3). This recombinant protein consists of the C-terminal half of rat Agrin and contains a nine amino acid (aa) insert at the Z site. It shares 59%, 80%, and 94% aa sequence identity with comparable regions of chick, human, and mouse Agrin, respectively. The C-terminal half of Z- and Z+ Agrin binds to α-Dystroglycan and mediates adhesion between motoneurons and myotubes at the neuromuscular junction (NMJ) (4-6). In contrast, only Z+ Agrin is effective at inducing clustering of the postsynaptic Acetylcholine Receptor (AChR) and presynaptic motoneuron differentiation (7, 8). Agrin-induced AChR clustering requires a myotube receptor complex that contains α-Dystroglycan, MuSK, and LRP4 (4, 9-11). Agrin exhibits many functions in addition to NMJ development. It is enriched in senile Alzheimer's disease plaques where it binds the Aβ (1-40) peptide and promotes amyloid fibril formation (12). It regulates neuronal excitability by binding and inhibiting the α3 subunit of the neuronal Na/K ATPase (13). It functions as an epithelial cell attachment receptor for HIV-1 through interactions with the gp41 coat protein (14). During T cell activation, Agrin contributes to formation of the immunological synapse and regulates the threshold of T cell activation (15).

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