Recombinant Mouse Agrin His-tag

Catalog Number: 11573-AG

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse Agrin protein Ala987-Leu1950 with an N-terminal 6-His tag Accession # A2ASQ1.1
N-terminal Sequence Analysis	His (of 6-His tag)
Predicted Molecular Mass	105 kDa

SPECIFICATIONS

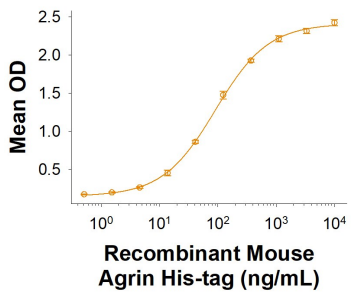
SDS-PAGE	114-128 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Recombinant Mouse Agrin His-tag binds to Recombinant Mouse LRP-4 His-tag Protein (Catalog # 10229-LR) with an ED_{50} of 30.0-300 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
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 1.00 mg/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.

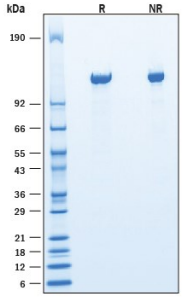
DATA

Binding Activity



Recombinant Mouse Agrin His-tag Protein Binding Activity. Measured by its binding ability in a functional ELISA. Recombinant Mouse Agrin His-tag Protein (Catalog # 11573-AG) binds to Recombinant Mouse LRP-4 His-tag Protein (Catalog # 10229-LR) with an ED_{50} of 30.0-300 ng/mL.

SDS-PAGE



Recombinant Mouse Agrin His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Mouse Agrin His-tag Protein (Catalog # 11573-AG) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 114-128 kDa under reducing conditions.

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Catalog Number: 11573-AG

BACKGROUND

Agrin is a 400-600 kDa heparan sulfate proteoglycan component of the extracellular matrix. The N-terminal half of mouse 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 mouse Agrin. It shares 59%, 82%, and 94% aa sequence identity with comparable regions of chick, human, and rat 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).

References:

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