SANTA CRUZ BIOTECHNOLOGY, INC.

Agrin (D-2): sc-374117

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Agrin is a molecule that resides in the basal lamina of muscle cells and directs key events in post synaptic differentiation. Most notably, Agrin is responsible for the clustering of acetylcholine receptors (AChRs) on the cell surface and their localization to the neuromuscular junction. Several Agrin variants have been identified which arise from alternative mRNA splicings. Agrin splice forms having inserts at two sites in the carboxy terminus designated "y" and "z" display a high affinity for AChRs, while splice forms lacking these inserts associate with AChRs weakly. Muscle α-dystroglycan has been postulated to be the receptor for the clustering activity of agrin; however, this is a point of contention. Tyrosine phosphorylation has been implicated as a required early step in AChR aggregation. Interestingly, a unique receptor tyrosine kinase, designated MuSK, has been discovered that interacts with Agrin and is specifically localized to developing muscle.

REFERENCES

1. Bowen, D.C., et al. 1996. Neural Agrin activates a high-affinity receptor in C2 muscle cells that is unresponsive to muscle Agrin. J. Neurosci. 16: 3791-3797.
2. Glass, D.J., et al. 1996. Agrin acts via a MuSK receptor complex. Cell 85: 513-523.

CHROMOSOMAL LOCATION

Genetic locus: AGRN (human) mapping to 1p36.33; Agrn (mouse) mapping to 4 E2.

SOURCE

Agrin (D-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1913-1942 near the C-terminus of Agrin of rat origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Agrin (D-2) is available conjugated to agarose (sc-374117 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374117 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-374117 PE), fluorescein (sc-374117 FITC) or Alexa Fluor® 488 (sc-374117 AF488) or Alexa Fluor® 647 (sc-374117 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-374117 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Agrin (D-2) is recommended for detection of Agrin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

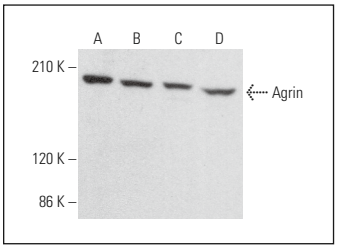
Agrin (D-2) is also recommended for detection of Agrin in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Agrin siRNA (h): sc-29652, Agrin siRNA (m): sc-29653, Agrin siRNA (r): sc-61875, Agrin shRNA Plasmid (h): sc-29652-SH, Agrin shRNA Plasmid (m): sc-29653-SH, Agrin shRNA Plasmid (r): sc-61875-SH, Agrin shRNA (h) Lentiviral Particles: sc-29652-V, Agrin shRNA (m) Lentiviral Particles: sc-29653-V and Agrin shRNA (r) Lentiviral Particles: sc-61875-V.

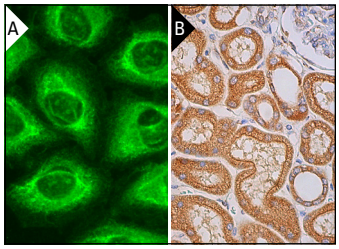
Molecular Weight of Agrin: 200 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, SH-SY5Y cell lysate: sc-3812 or EOC 20 whole cell lysate: sc-364187.

DATA



Agrin (D-2): sc-374117. Western blot analysis of Agrin expression in EOC 20 (**A**), Neuro-2A (**B**), C6 (**C**) and SH-SY5Y (**D**) whole cell lysates.



Agrin (D-2): sc-374117. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Bassat, E., et al. 2017. The extracellular matrix protein Agrin promotes heart regeneration in mice. Nature 547: 179-184.
2. Zhang, H., et al. 2023. AGRN promotes lung adenocarcinoma progression by activating Notch signaling pathway and acts as a therapeutic target. Pharmacol. Res. 194: 106819.
3. Li, J., et al. 2024. Identification and validation of basement membrane-associated gene AGRN as prognostic and immune-associated biomarkers in colorectal cancer patients. J. Cell. Mol. Med. 28: e70010.
4. Yu Lin, M.O., et al. 2025. YAP/TAZ drive Agrin-matrix metalloproteinase 12-mediated diabetic skin wound healing. J. Invest. Dermatol. 145:155-170.e2.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.