SANTA CRUZ BIOTECHNOLOGY, INC.

Amphiphysin I (G-4): sc-376402

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Amphiphysin is a brain-enriched protein that exhibits N-terminal lipid interaction and functions as a dimer. Amphiphysin contains a membrane bending BAR domain, a middle Clathrin and adaptor binding domain, and a C-terminal SH3 domain. In the brain, Amphiphysin I and II form heterodimers that bind to the Clathrin associated GTPase Dynamin via their SH3 domains. This association is essential for synaptic vesicle recycling in neurons, as it precedes the binding of Dynamin to the Clathrin-coated pits and the subsequent vesicle budding. In other tissues, Amphiphysin may play a key role in other membrane bending and curvature stabilization events. The mammalian Amphiphysins, Amphiphysin I and Amphiphysin II, have similar overall structure. A ubiquitous splice form of Amphiphysin II that does not contain Clathrin or adaptor interactions is highly expressed in muscle tissue and is involved in the formation and stabilization of the T tubule network.

REFERENCES

1. Lichte, B., et al. 1992. Amphiphysin, a novel protein associated with synaptic vesicles. EMBO J. 11: 2521-2530.
2. Yamamoto, R., et al. 1995. Primary structure of human Amphiphysin, the dominant autoantigen of paraneoplastic stiff-man syndrome, and mapping of its gene (AMPH) to chromosome 7p13-p14. Hum. Mol. Genet. 4: 265-268.

CHROMOSOMAL LOCATION

Genetic locus: AMPH (human) mapping to 7p14.1; Amph (mouse) mapping to 13 A2.

SOURCE

Amphiphysin I (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of Amphiphysin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Amphiphysin I (G-4) is available conjugated to agarose (sc-376402 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376402 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376402 PE), fluorescein (sc-376402 FITC), Alexa Fluor® 488 (sc-376402 AF488), Alexa Fluor® 546 (sc-376402 AF546), Alexa Fluor® 594 (sc-376402 AF594) or Alexa Fluor® 647 (sc-376402 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376402 AF680) or Alexa Fluor® 790 (sc-376402 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376402 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

Amphiphysin I (G-4) is recommended for detection of Amphiphysin I 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).

Suitable for use as control antibody for Amphiphysin I siRNA (h): sc-29671, Amphiphysin I siRNA (m): sc-29672, Amphiphysin I shRNA Plasmid (h): sc-29671-SH, Amphiphysin I shRNA Plasmid (m): sc-29672-SH, Amphiphysin I shRNA (h) Lentiviral Particles: sc-29671-V and Amphiphysin I shRNA (m) Lentiviral Particles: sc-29672-V.

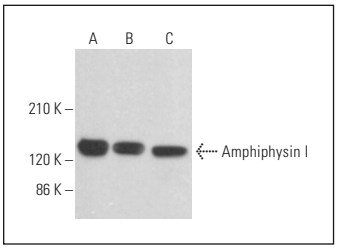
Molecular Weight of Amphiphysin I: 128 kDa.

Positive Controls: mouse brain extract: sc-2235, rat brain extract: sc-2392 or human brain extract: sc-364375.

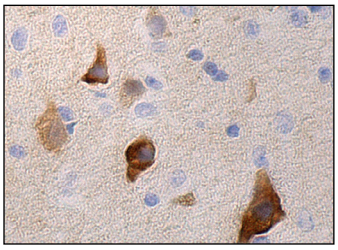
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Amphiphysin I (G-4): sc-376402. Western blot analysis of Amphiphysin I expression in rat brain (**A**), human brain (**B**) and mouse postnatal brain (**C**) tissue extracts.



Amphiphysin I (G-4): sc-376402. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells.

SELECT PRODUCT CITATIONS

1. Shin, E.Y., et al. 2020. Integrin-mediated adhesions in regulation of cellular senescence. Sci. Adv. 6: eaay3909.

RESEARCH USE

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