SANTA CRUZ BIOTECHNOLOGY, INC.

Amphiphysin II (54): sc-136316

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.
3. Sakamuro, D., et al. 1996. BIN1 is a novel Myc-interacting protein with features of a tumour suppressor. Nat. Genet. 14: 69-77.
4. Leprince, C., et al. 1997. A new member of the Amphiphysin family connecting endocytosis and signal transduction pathways. J. Biol. Chem. 272: 15101-15105.
5. Wechsler-Reya, R., et al. 1997. Structural analysis of the human BIN1 gene. Evidence for tissue-specific transcriptional regulation and alternate RNA splicing. J. Biol. Chem. 272: 31453-31458.
6. Wigge, P., et al. 1997. Amphiphysin heterodimers: potential role in Clathrin-mediated endocytosis. Mol. Biol. Cell 8: 2004-2015.

CHROMOSOMAL LOCATION

Genetic locus: BIN1 (human) mapping to 2q14.3; Bin1 (mouse) mapping to 18 B1.

SOURCE

Amphiphysin II (54) is a mouse monoclonal antibody raised against amino acids 345-479 of Amphiphysin II of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Amphiphysin II (54) is recommended for detection of Amphiphysin II isoform BRAMP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); not recommended for immunoprecipitation.

Suitable for use as control antibody for Amphiphysin II siRNA (h): sc-29804, Amphiphysin II siRNA (m): sc-29805, Amphiphysin II shRNA Plasmid (h): sc-29804-SH, Amphiphysin II shRNA Plasmid (m): sc-29805-SH, Amphiphysin II shRNA (h) Lentiviral Particles: sc-29804-V and Amphiphysin II shRNA (m) Lentiviral Particles: sc-29805-V.

Molecular Weight of Amphiphysin II: 90 kDa.

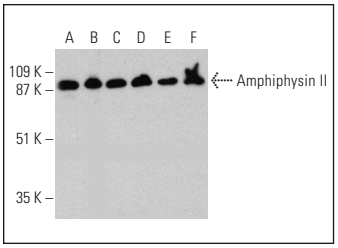
Molecular Weight of Amphiphysin II BIN1 splice variant: 70 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, BC_3H1 cell lysate: sc-2299 or Sol8 cell lysate: sc-2249.

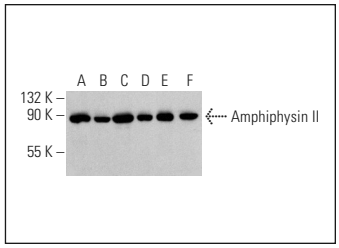
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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.

DATA



Amphiphysin II (54): sc-136316. Western blot analysis of Amphiphysin II expression in IMR-32 (**A**), H4 (**B**), HeLa (**C**), Jurkat (**D**), SJRH30 (**E**) and SNU-16 (**F**) whole cell lysates.



Amphiphysin II (54): sc-136316. Western blot analysis of Amphiphysin II expression in NIH/3T3 (**A**), Sol8 (**B**), BC_3H1 (**C**), L8 (**D**), NRK (**E**) and C6 (**F**) whole cell lysates.

RESEARCH USE

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

CONJUGATES

See **Amphiphysin II (2F11): sc-23918** for Amphiphysin II antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.