

Amphiphysin I (13): sc-21711

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. An 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

- Lichte, B., Veh, R.W., Meyer, H.E. and Kilimann, M.W. 1992. Amphiphysin, a novel protein associated with synaptic vesicles. *EMBO J.* 11: 2521-2530.
- Yamamoto, R., Li, X., Winter, S., Francke, U. and Kilimann, M.W. 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.
- Sakamuro, D., Elliott, K.J., Wechsler-Reya, R. and Prendergast, G.C. 1996. BIN1 is a novel Myc-interacting protein with features of a tumour suppressor. *Nat. Genet.* 14: 69-77.
- Leprince, C., Romero, F., Cussac, D., Vayssiere, B., Berger, R., Tavitian, A. and Camonis, J.H. 1997. A new member of the amphiphysin family connecting endocytosis and signal transduction pathways. *J. Biol. Chem.* 272: 15101-15105.
- Wigge, P., Kohler, K., Vallis, Y., Doyle, C.A., Owen, D., Hunt, S.P. and McMahon, H.T. 1997. Amphiphysin heterodimers: potential role in Clathrin-mediated endocytosis. *Mol. Biol. Cell* 8: 2004-2015.
- Wechsler-Reya, R., Sakamuro, D., Zhang, J., Duhadaway, J. and Prendergast, G.C. 1997. Structural analysis of the human BIN1 gene. Evidence for tissue-specific transcriptional regulation and alternate RNA splicing. *J. Biol. Chem.* 272: 31453-31458.
- Wechsler-Reya, R., Elliott, K., Herlyn, M. and Prendergast, G.C. 1997. The putative tumor suppressor BIN1 is a short-lived nuclear phosphoprotein, the localization of which is altered in malignant cells. *Cancer Res.* 57: 3258-3263.

CHROMOSOMAL LOCATION

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

SOURCE

Amphiphysin I (13) is a mouse monoclonal antibody raised against epitope mapping at the N-terminus of Amphiphysin I of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Amphiphysin I (13) is recommended for detection of Amphiphysin I 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).

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.

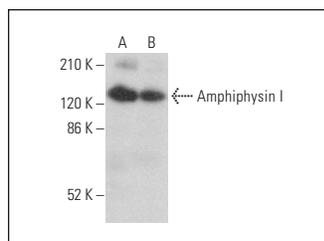
Molecular Weight of Amphiphysin I: 128 kDa.

Positive Controls: Amphiphysin I (h): 293T Lysate: sc-114254, IMR-32 cell lysate: sc-2409 or U-2 OS cell lysate: sc-2295.

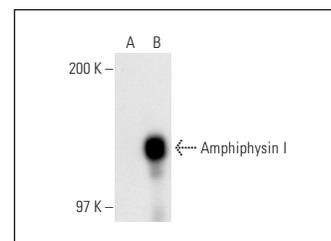
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Amphiphysin I (13): sc-21711. Western blot analysis of Amphiphysin I expression in IMR-32 (A) and U-2 OS (B) whole cell lysates.



Amphiphysin I (13): sc-21711. Western blot analysis of Amphiphysin I expression in non-transfected: sc-117752 (A) and human Amphiphysin I transfected: sc-114254 (B) 293T whole cell lysates.

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.