SANTA CRUZ BIOTECHNOLOGY, INC.

Liprin α1 (A-6): sc-398030

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Liprins interact with members of the leukocyte common antigen-related (LAR) family of transmembrane protein tyrosine phosphatases, which are implicated in axon guidance and mammary gland development. Liprins are multivalent proteins that form complex structures and act as scaffolds for the recruitment and anchoring of LAR phosphatases. Based on sequence similarities and binding characteristics, Liprins are subdivided into α and β Liprins. Both α and β Liprins homodimerize via their N-terminal, coiled coil regions. Liprin α1 is a ubiquitously expressed protein that interacts with the tumor suppressor ING4 to regulate cell migration and possibly prevent metastasis. The interaction between LAR and Liprin α1 can be weakened by treatment of Liprin α1 with calf intestinal phosphatase.

REFERENCES

1. Serra-Pagès, C., et al. 1998. Liprins, a family of LAR transmembrane protein-tyrosine phosphatase-interacting proteins. J. Biol. Chem. 273: 15611-15620.
2. Kaufmann, N., et al. 2002. *Drosophila* Liprin α and the receptor phosphatase Dlar control synapse morphogenesis. Neuron 34: 27-38.
3. Ko, J., et al. 2003. Interaction between Liprin α and GIT1 is required for AMPA receptor targeting. J. Neurosci. 23: 1667-1677.
4. Patel, M.R., et al. 2006. Hierarchical assembly of presynaptic components in defined *C. elegans* synapses. Nat. Neurosci. 9: 1488-1498.
5. Unoki, M., et al. 2006. Novel splice variants of ING4 and their possible roles in the regulation of cell growth and motility. J. Biol. Chem. 281: 34677-34686.
6. Hofmeyer, K., et al. 2006. Liprin-α has LAR-independent functions in R7 photoreceptor axon targeting. Proc. Natl. Acad. Sci. USA 103: 11595-11600.
7. Choe, K.M., et al. 2006. Liprin-α is required for photoreceptor target selection in *Drosophila*. Proc. Natl. Acad. Sci. USA 103: 11601-11606.
8. Olsen, O., et al. 2006. Synaptic transmission regulated by a presynaptic MALS/Liprin-α protein complex. Curr. Opin. Cell Biol. 18: 223-227.

CHROMOSOMAL LOCATION

Genetic locus: PPFIA1 (human) mapping to 11q13.3; Ppfia1 (mouse) mapping to 7 F5.

SOURCE

Liprin α1 (A-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 522-541 within an internal region of Liprin α1 of human 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.

Blocking peptide available for competition studies, sc-398030 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Liprin α1 (A-6) is recommended for detection of Liprin α1 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 Liprin α1 siRNA (h): sc-72330, Liprin α1 siRNA (m): sc-72331, Liprin α1 shRNA Plasmid (h): sc-72330-SH, Liprin α1 shRNA Plasmid (m): sc-72331-SH, Liprin α1 shRNA (h) Lentiviral Particles: sc-72330-V and Liprin α1 shRNA (m) Lentiviral Particles: sc-72331-V.

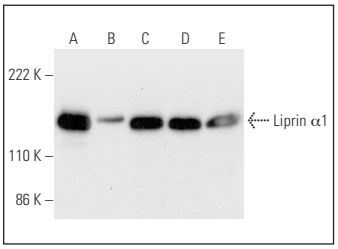
Molecular Weight of Liprin α1: 134-136 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or MDA-MB-231 cell lysate: sc-2232.

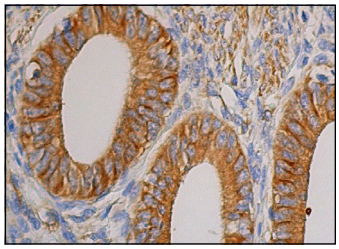
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



Liprin α1 (A-6): sc-398030. Western blot analysis of Liprin α1 expression in BT-20 (**A**), MDA-MB-468 (**B**), Jurkat (**C**), HeLa (**D**) and MDA-MB-231 (**E**) whole cell lysates.



Liprin α1 (A-6): sc-398030. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pre-menopausal uterus tissue showing cytoplasmic staining of glandular cells and cells in endometrial stroma.

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