

Liprin α 1 (A-5): sc-376141

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 α 1 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 α 1 can be weakened by treatment of Liprin α 1 with calf intestinal phosphatase.

REFERENCES

- Serra-Pagès, C., et al. 1998. Liprins, a family of LAR transmembrane protein-tyrosine phosphatase-interacting proteins. *J. Biol. Chem.* 273: 15611-15620.
- Kaufmann, N., et al. 2002. *Drosophila* liprin- α and the receptor phosphatase Dlar control synapse morphogenesis. *Neuron* 34: 27-38.
- Ko, J., et al. 2003. Interaction between liprin- α and GIT1 is required for AMPA receptor targeting. *J. Neurosci.* 23: 1667-1677.
- Patel, M.R., et al. 2006. Hierarchical assembly of presynaptic components in defined *C. elegans* synapses. *Nat. Neurosci.* 9: 1488-1498.
- 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.
- Hofmeyer, K., et al. 2006. Liprin- α has LAR-independent functions in R7 photoreceptor axon targeting. *Proc. Natl. Acad. Sci. USA* 103: 11595-11600.

CHROMOSOMAL LOCATION

Genetic locus: PPF1A1 (human) mapping to 11q13.3; Ppfia1 (mouse) mapping to 7 F5.

SOURCE

Liprin α 1 (A-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 751-789 within an internal region of Liprin α 1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} 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-376141 P, (100 μ g 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.

APPLICATIONS

Liprin α 1 (A-5) is recommended for detection of Liprin α 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Liprin α 1 (A-5) is also recommended for detection of Liprin α 1 in additional species, including avian.

Suitable for use as control antibody for Liprin α 1 siRNA (h): sc-72330, Liprin α 1 siRNA (m): sc-72331, Liprin α 1 shRNA Plasmid (h): sc-72330-SH, Liprin α 1 shRNA Plasmid (m): sc-72331-SH, Liprin α 1 shRNA (h) Lentiviral Particles: sc-72330-V and Liprin α 1 shRNA (m) Lentiviral Particles: sc-72331-V.

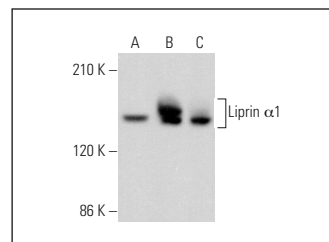
Molecular Weight of Liprin α 1: 134-136 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HUV-EC-C whole cell lysate: sc-364180 or HeLa whole cell lysate: sc-2200.

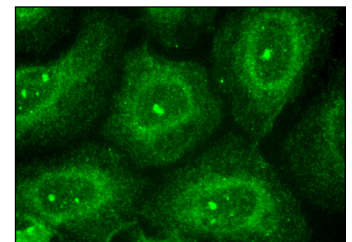
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



Liprin α 1 (A-5): sc-376141. Western blot analysis of Liprin α 1 expression in Jurkat (A), HeLa (B) and HUV-EC-C (C) whole cell lysates.



Liprin α 1 (A-5): sc-376141. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Xie, X., et al. 2020. Structural basis of liprin- α -promoted LAR-RPTP clustering for modulation of phosphatase activity. *Nat. Commun.* 11: 169.
- Ripamonti, M., et al. 2022. A functional interaction between Liprin- α 1 and B56 γ regulatory subunit of protein phosphatase 2A supports tumor cell motility. *Commun. Biol.* 5: 1025.

RESEARCH USE

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