

Liprin α 2 (T-16): sc-54044

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 2, also known as PTPRF-interacting protein α 2, regulates the disassembly of focal adhesions and is expressed in brain and prostate. Liprin α 2 is downregulated by dihydrotestosterone (DHT) in prostate cancer cells in an androgen-dependent manner. The loss of Liprin α 2 expression may be associated with the androgen-independent characteristics of prostate cancer.

REFERENCES

- Serra-Pagès, C., Medley, Q.G., Tang, M., Hart, A. and Streuli, M. 1998. Liprins, a family of LAR transmembrane protein-tyrosine phosphatase-interacting proteins. *J. Biol. Chem.* 273: 15611-15620.
- Zhen, M. and Jin, Y. 1999. The liprin protein SYD-2 regulates the differentiation of presynaptic termini in *C. elegans*. *Nature* 401: 371-375.
- Kaufmann, N., DeProto, J., Ranjan, R., Wan, H. and Van Vactor, D. 2002. *Drosophila* Liprin α and the receptor phosphatase Dlar control synapse morphogenesis. *Neuron* 34: 27-38.
- Fujinami, K., Uemura, H., Ishiguro, H. and Kubota, Y. 2002. Liprin α 2 gene, protein tyrosine phosphatase LAR interacting protein related gene, is downregulated by androgens in the human prostate cancer cell line LNCaP. *Int. J. Mol. Med.* 10: 173-176.
- Ko, J., Kim, S., Valtschanoff, J.G., Shin, H., Lee, J.R., Sheng, M., Premont, R.T., Weinberg, R.J. and Kim, E. 2003. Interaction between Liprin α and GIT1 is required for AMPA receptor targeting. *J. Neurosci.* 23: 1667-1677.
- Ko, J., Na, M., Kim, S., Lee, J.R. and Kim, E. 2003. Interaction of the ERC family of RIM-binding proteins with the Liprin α family of multidomain proteins. *J. Biol. Chem.* 278: 42377-42385.
- Miller, K.E., DeProto, J., Kaufmann, N., Patel, B.N., Duckworth, A. and Van Vactor, D. 2005. Direct observation demonstrates that Liprin α is required for trafficking of synaptic vesicles. *Curr. Biol.* 15: 684-689.
- Olsen, O., Moore, K.A., Nicoll, R.A. and Brecht, D.S. 2006. Synaptic transmission regulated by a presynaptic MALS/Liprin α protein complex. *Curr. Opin. Cell Biol.* 18: 223-227.

CHROMOSOMAL LOCATION

Genetic locus: PPFIA2 (human) mapping to 12q21.31; Ppfia2 (mouse) mapping to 10 D1.

SOURCE

Liprin α 2 (T-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Liprin α 2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54044 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Liprin α 2 (T-16) is recommended for detection of Liprin α 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 2 (T-16) is also recommended for detection of Liprin α 2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Liprin α 2 siRNA (h): sc-72332, Liprin α 2 siRNA (m): sc-72333, Liprin α 2 shRNA Plasmid (h): sc-72332-SH, Liprin α 2 shRNA Plasmid (m): sc-72333-SH, Liprin α 2 shRNA (h) Lentiviral Particles: sc-72332-V and Liprin α 2 shRNA (m) Lentiviral Particles: sc-72333-V.

Molecular Weight of Liprin α 2: 143 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.