SANTA CRUZ BIOTECHNOLOGY, INC.

LASP-1 (B-3): sc-398990

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The Power to Question

BACKGROUND

LASP-1 (LIM and SH3 domain protein 1), also known as MLN50, is a 261 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and contains one SH3 domain, one LIM zinc-binding domain and two nebulin repeats. Expressed as two alternatively spliced isoforms, LASP-1 interacts with F-Actin and plays an important role in the regulation of Actin-associated cytoskeletal organization. LASP-1 is subject to post-translational phosphorylation, an event which may regulate Actin-related ion transport activities in epithelial cells. Overexpression of LASP-1 is associated with breast cancer, suggesting a role for LASP-1 in tumor transformation and metastasis. The gene encoding LASP-1 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes.

REFERENCES

1. Tomasetto, C., et al. 1995. LASP-1 (MLN 50) defines a new LIM protein subfamily characterized by the association of LIM and SH3 domains. FEBS Lett. 373: 245-249.
2. Schreiber, V., et al. 1998. Chromosomal assignment and expression pattern of the murine LASP-1 gene. Gene 207: 171-175.
3. Butt, E., et al. 2003. Actin binding of human LIM and SH3 protein is regulated by cGMP- and cAMP-dependent protein kinase phosphorylation on Serine 146. J. Biol. Chem. 278: 15601-15607.
4. Strehl, S., et al. 2003. The human LASP1 gene is fused to MLL in an acute myeloid leukemia with t(11;17)(q23;q21). Oncogene 22: 157-160.
5. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 602920. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Keicher, C., et al. 2004. Phosphorylation of mouse LASP-1 on Threonine 156 by cAMP- and cGMP-dependent protein kinase. Biochem. Biophys. Res. Commun. 324: 308-316.
7. Li, B., et al. 2004. Zyxin interacts with the SH3 domains of the cytoskeletal proteins LIM-nebulette and LASP-1. J. Biol. Chem. 279: 20401-20410.
8. Grunewald, T.G., et al. 2006. Silencing of LASP-1 influences zyxin localization, inhibits proliferation and reduces migration in breast cancer cells. Exp. Cell Res. 312: 974-982.
9. Grunewald, T.G., et al. 2007. Nuclear localization and cytosolic overexpression of LASP-1 correlates with tumor size and nodal-positivity of human breast carcinoma. BMC Cancer 7: 198.

CHROMOSOMAL LOCATION

Genetic locus: LASP1 (human) mapping to 17q12.

SOURCE

LASP-1 (B-3) is a mouse monoclonal antibody raised against amino acids 123-213 mapping within an internal region of LASP-1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LASP-1 (B-3) is recommended for detection of LASP-1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LASP-1 siRNA (h): sc-105607, LASP-1 shRNA Plasmid (h): sc-105607-SH and LASP-1 shRNA (h) Lentiviral Particles: sc-105607-V.

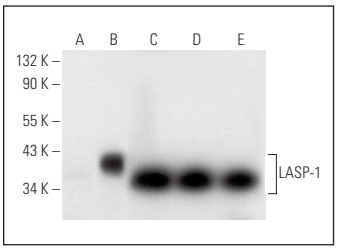
Molecular Weight of LASP-1: 40 kDa.

Positive Controls: LASP-1 (h3): 293T Lysate: sc-159181, SK-OV-3 whole cell lysate: sc-364229 or Jurkat whole cell lysate: sc-2204.

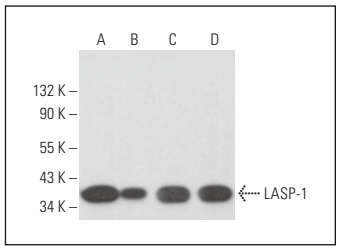
RECOMMENDED SUPPORT REAGENTS

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



LASP-1 (B-3): sc-398990. Western blot analysis of LASP-1 expression in non-transfected 293T: sc-117752 (**A**), human LASP-1 transfected 293T: sc-159181 (**B**), SK-OV-3 (**C**), Jurkat (**D**) and HeLa (**E**) whole cell lysates.



LASP-1 (B-3): sc-398990. Western blot analysis of LASP-1 expression in HeLa (**A**), SK-BR-3 (**B**), Hep G2 (**C**) and MDA-MB-231 (**D**) 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.

PROTOCOLS

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