

LASP-1 (KK-M25): sc-134379

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

- Tomasetto, C., Moog-Lutz, C., Regnier, C.H., Schreiber, V., Basset, P. and Rio, M.C. 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.
- Schreiber, V., Masson, R., Linares, J.L., Mattei, M.G., Tomasetto, C. and Rio, M.C. 1998. Chromosomal assignment and expression pattern of the murine LASP-1 gene. *Gene* 207: 171-175.
- Butt, E., Gambaryan, S., Göttfert, N., Galler, A., Marcus, K. and Meyer, H.E. 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.
- Strehl, S., Borkhardt, A., Slany, R., Fuchs, U.E., König, M. and Haas, O.A. 2003. The human LASP1 gene is fused to MLL in an acute myeloid leukemia with t(11;17)(q23;q21). *Oncogene* 22: 157-160.
- 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/>
- Keicher, C., Gambaryan, S., Schulze, E., Marcus, K., Meyer, H.E. and Butt, E. 2004. Phosphorylation of mouse LASP-1 on threonine 156 by cAMP- and cGMP-dependent protein kinase. *Biochem. Biophys. Res. Commun.* 324: 308-316.
- Li, B., Zhuang, L. and Trueb, B. 2004. Zyxin interacts with the SH3 domains of the cytoskeletal proteins LIM-nebulette and LASP-1. *J. Biol. Chem.* 279: 20401-20410.
- Grunewald, T.G., Kammerer, U., Schulze, E., Schindler, D., Honig, A., Zimmer, M. and Butt, E. 2006. Silencing of LASP-1 influences zyxin localization, inhibits proliferation and reduces migration in breast cancer cells. *Exp. Cell Res.* 312: 974-982.
- Grunewald, T.G., Kammerer, U., Kapp, M., Eck, M., Dietl, J., Butt, E. and Honig, A. 2007. Nuclear localization and cytosolic overexpression of LASP-1 correlates with tumor size and nodal-positivity of human breast carcinoma. *BMC Cancer* 7: 198.

RESEARCH USE

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

CHROMOSOMAL LOCATION

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

SOURCE

LASP-1 (KK-M25) is a mouse monoclonal antibody raised against recombinant LASP-1 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LASP-1 (KK-M25) is recommended for detection of LASP-1 of 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 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.

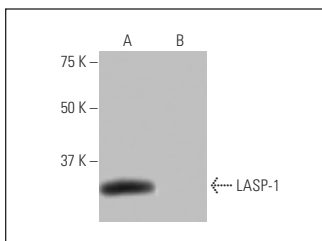
Molecular Weight of LASP-1: 40 kDa.

Positive Controls: human LASP-1 transfected 293T whole cell lysate.

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).

DATA



LASP-1 (KK-M25): sc-134379. Western blot analysis of LASP-1 expression in human LASP-1 transfected (A) and non-transfected (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.