

Lsc (G-7): sc-374532



The Power to Question

BACKGROUND

The Ras superfamily of GTPases can be subdivided into the Ras, Rho/Rac, Sar, Rab, Arf and Ran subfamilies and controls multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling, and cell growth. The Ras superfamily of GTPases function as regulated switches that toggle between a biologically active GTP-bound and an inactive GDP-bound form. This activation is catalyzed by guanine nucleotide exchange factors (GEFs). The Dbl-related proteins are a large family of structurally related molecules that have a common ability to catalyze GEF activity for specific members of the Ras family. Dbl-related proteins include FGD1, RhoGEF p115/Lsc, Lfc, Lbc and Brx. RhoGEF p115/Lsc, Lbc and Lfc share sequence homology and show exchange activity toward Rho family GTPases. RhoGEF p115 (the human homolog of Lsc) catalyzes GEF activity for Rho but not Rac, Cdc42 or Ras GTPases.

REFERENCES

1. Bourne, H.R., et al. 1990. The GTPase superfamily: a conserved switch for diverse cell functions. *Nature* 348: 125-132.
2. Boguski, M.S., et al. 1993. Proteins regulating Ras and its relatives. *Nature* 366: 643-654.
3. Whitehead, I.P., et al. 1996. Expression cloning of Lsc, a novel oncogene with structural similarities to the Dbl family of guanine nucleotide exchange factors. *J. Biol. Chem.* 271: 18643-18650.
4. Hart, M.J., et al. 1996. Identification of a novel guanine nucleotide exchange factor for the Rho GTPase. *J. Biol. Chem.* 271: 25452-25458.
5. Cerione, R.A., et al. 1996. The Dbl family of oncogenes. *Curr. Opin. Cell Biol.* 8: 216-222.
6. Whitehead, I.P., et al. 1997. Dbl family proteins. *Biochim. Biophys. Acta* 1332: F1-F23.
7. Zohn, I.M., et al. 1998. Rho family proteins and Ras transformation: the RHOad less traveled gets congested. *Oncogene* 17: 1415-1438.

CHROMOSOMAL LOCATION

Genetic locus: Arhgef1 (mouse) mapping to 7 A3.

SOURCE

Lsc (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 893-920 at the C-terminus of Lsc of mouse 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-374532 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

Lsc (G-7) is recommended for detection of Lsc of mouse and rat 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 Lsc siRNA (m): sc-41725, Lsc shRNA Plasmid (m): sc-41725-SH and Lsc shRNA (m) Lentiviral Particles: sc-41725-V.

Molecular Weight (predicted) of Lsc: 115 kDa.

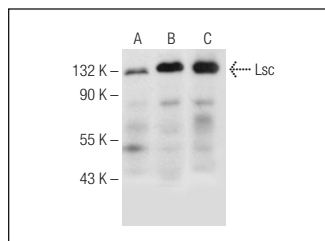
Molecular Weight (observed) of Lsc: 132 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, M1 whole cell lysate: sc-364782 or MM-142 cell lysate: sc-2246.

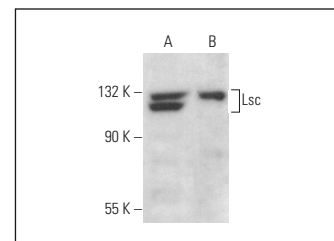
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Lsc (G-7): sc-374532. Western blot analysis of Lsc expression in MCP-5 (A), M1 (B) and MM-142 (C) whole cell lysates.



Lsc (G-7): sc-374532. Western blot analysis of Lsc expression in RAW 264.7 (A) and M1 (B) 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.