

LIMK-1 (42): sc-135973

BACKGROUND

Proteins containing LIM motifs are typically involved in cell fate determination and growth control. A family of proteins designated LIM kinases, including LIMK-1 and LIMK-2, has been identified. LIMK-1 has been shown to regulate the stabilization of F-Actin structures and cofilin activity, indicating that LIMK-1 plays a role in a signaling pathway involved in the regulation of cell motility and morphogenesis. LIMK-1 inhibits neuronal differentiation of PC12 cells, and is thought to act by interfering with events downstream of MAPK activation. Expression patterns of LIMK-1 and LIMK-2 suggest that these proteins may have different functions during development. A truncated form of LIMK-2 has been identified in adult testis that is thought to arise from an alternative initiation exon.

REFERENCES

- Okano, I., et al. 1995. Identification and characterization of a novel family of serine/threonine kinases containing two N-terminal LIM motifs. *J. Biol. Chem.* 270: 31321-31330.
- Nunoue, K., et al. 1995. LIMK-1 and LIMK-2, two members of a LIM motif-containing protein kinase family. *Oncogene* 11: 701-710.
- Higuchi, O., et al. 1997. Inhibition of activated Ras-induced neuronal differentiation of PC12 cells by the LIM domain of LIM-kinase 1. *Oncogene* 14: 1819-1825.
- Mori, T., et al. 1997. Comparison of tissue distribution of two novel serine/threonine kinase genes containing the LIM motif (LIMK-1 and LIMK-2) in the developing rat. *Brain Res. Mol. Brain Res.* 45: 247-254.
- Yang, N., et al. 1998. Cofilin phosphorylation by LIMK-1 and its role in Rac-mediated Actin reorganization. *Nature* 393: 809-812.
- Takahashi, H., et al. 1998. A novel transcript encoding truncated LIM kinase 2 is specifically expressed in male germ cells undergoing meiosis. *Biochem. Biophys. Res. Commun.* 249: 138-145.
- Sarmiere, P.D., et al. 2002. Head, neck, and spines: a role for LIMK-1 in the hippocampus. *Neuron* 35: 3-5.
- Meng, Y., et al. 2002. Abnormal spine morphology and enhanced LTP in LIMK-1 knockout mice. *Neuron* 35: 121-133.

CHROMOSOMAL LOCATION

Genetic locus: LIMK1 (human) mapping to 7q11.23; Limk1 (mouse) mapping to 5 G2.

SOURCE

LIMK-1 (42) is a mouse monoclonal antibody raised against amino acids 232-333 of LIMK-1 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

APPLICATIONS

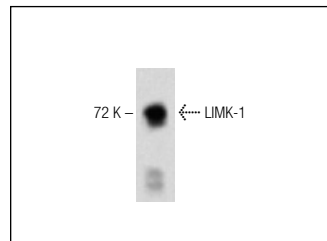
LIMK-1 (42) is recommended for detection of LIMK-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for LIMK-1 siRNA (h): sc-35810, LIMK-1 siRNA (m): sc-35811, LIMK-1 shRNA Plasmid (h): sc-35810-SH, LIMK-1 shRNA Plasmid (m): sc-35811-SH, LIMK-1 shRNA (h) Lentiviral Particles: sc-35810-V and LIMK-1 shRNA (m) Lentiviral Particles: sc-35811-V.

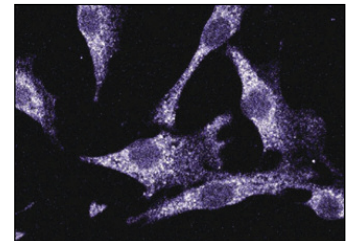
Molecular Weight of LIMK-1: 72 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, A-431 whole cell lysate: sc-2201 or rat cerebellum extract: sc-2398.

DATA



LIMK-1 (42): sc-135973. Western blot analysis of LIMK-1 expression in rat cerebellum tissue extract.



LIMK-1 (42): sc-135973. Immunofluorescence staining of NIH/3T3 cells showing cytoplasmic localization.

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. Not for resale.

PROTOCOLS

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