

p-LIMK-1/2 (Thr 508/505)-R: sc-28409-R

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

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- 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.

CHROMOSOMAL LOCATION

Genetic locus: LIMK1 (human) mapping to 7q11.23, LIMK2 (human) mapping to 22q12.2; Limk1 (mouse) mapping to 5 G2, Limk2 (mouse) mapping to 11 A1.

SOURCE

p-LIMK-1/2 (Thr 508/505)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Thr 505 of LIMK-2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-28409 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

p-LIMK-1/2 (Thr 508/505)-R is recommended for detection of Thr 508 phosphorylated LIMK-1 and Thr 505 phosphorylated LIMK-2 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)], 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).

p-LIMK-1/2 (Thr 508/505)-R is also recommended for detection of correspondingly phosphorylated Thr on LIMK-1 and LIMK-2 in additional species, including equine, canine, bovine, porcine and avian.

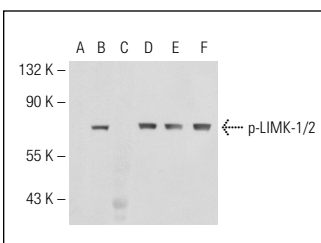
Molecular Weight of p-LIMK-1/2: 70 kDa.

Positive Controls: THP-1 cell lysate: sc-2238 or THP-1 + PMA cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Western blot analysis of LIMK-1/2 phosphorylation in untreated (A,D), PMA treated (B,E) and PMA and lambda protein phosphatase (sc-200312A) treated (C,F) THP-1 whole cell lysates. Antibodies tested include p-LIMK-1/2 (Thr 508/505)-R: sc-28409-R (A,B,C) and LIMK-1 (H-84): sc-5576 (D,E,F).

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.