# SANTA CRUZ BIOTECHNOLOGY, INC.

# LIMK-1 (C-10): sc-28370



#### 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.

## **CHROMOSOMAL LOCATION**

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

## SOURCE

LIMK-1 (C-10) is a mouse monoclonal antibody raised against amino acids 136-219 of LIMK-1 of human origin.

#### PRODUCT

Each vial contains 200  $\mu g~lgG_{2b}$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LIMK-1 (C-10) is available conjugated to agarose (sc-28370 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-28370 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28370 PE), fluorescein (sc-28370 FITC), Alexa Fluor<sup>®</sup> 488 (sc-28370 AF488), Alexa Fluor<sup>®</sup> 546 (sc-28370 AF546), Alexa Fluor<sup>®</sup> 594 (sc-28370 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-28370 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-28370 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-28370 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

#### **APPLICATIONS**

LIMK-1 (C-10) is recommended for detection of LIMK-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 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, NRK whole cell lysate: sc-364197 or RIN-m5F whole cell lysate: sc-364792.

#### STORAGE

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

# DATA





LIMK-1 (C-10): sc-28370. Western blot analysis of LIMK-1 expression in HelLa (A), A-431 (B), NIH/3T3 (C) and PC-12 (D) whole cell lysates.

LIMK-1 (C-10): sc-28370. Western blot analysis of LIMK-1 expression in C3H/10T1/2 (A), NRK (B) and RIN-m5F (C) whole cell lysates.

## **SELECT PRODUCT CITATIONS**

- 1. Song, X., et al. 2006. Initiation of cofilin activity in response to EGF is uncoupled from cofilin phosphorylation and dephosphorylation in carcinoma cells. J. Cell Sci. 119: 2871-2881.
- 2. Guo, H., et al. 2011. Downregulation of p57 accelerates the growth and invasion of hepatocellular carcinoma. Carcinogenesis 32: 1897-1904.
- Li, S., et al. 2013. The neural cell adhesion molecule (NCAM) associates with and signals through p21-activated kinase 1 (Pak1). J. Neurosci. 33: 790-803.
- Maldonado-Contreras, A., et al. 2017. Shigella depends on SepA to destabilize the intestinal epithelial integrity via cofilin activation. Gut Microbes 8: 544-560.
- Min, J.S., et al. 2018. SIRT2 reduces Actin polymerization and cell migration through deacetylation and degradation of HSP 90. Biochim. Biophys. Acta Mol. Cell Res. 1865: 1230-1238.
- Zhang, M., et al. 2020. Dasatinib inhibits lung cancer cell growth and patient derived tumor growth in mice by targeting LIMK-1. Front. Cell Dev. Biol. 8: 556532.
- Wang, X., et al. 2021. Alantolactone suppresses the metastatic phenotype and induces the apoptosis of glioblastoma cells by targeting LIMK kinase activity and activating the cofilin/G-Actin signaling cascade. Int. J. Mol. Med. 47: 68.
- Ansari, M.A., et al. 2023. Impaired insulin signaling alters mediators of hippocampal synaptic dynamics/plasticity: a possible mechanism of hyperglycemia-induced cognitive impairment. Cells 12: 1728.
- 9. libushi, J., et al. 2024. ATG9B regulates bacterial internalization via Actin rearrangement. iScience 27: 109623.

#### **RESEARCH USE**

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