SANTA CRUZ BIOTECHNOLOGY, INC.

LIS1 (H-7): sc-374586



BACKGROUND

Lissencephaly (smooth brain) is an abnormality of brain development characterized by incomplete neuronal migration and a smooth cerebral surface, resulting in severe mental retardation. Genetic analysis identified two proteins that are mutated in some cases of lissencephaly, designated lissencephaly-1 protein (LIS1) and doublecortin. LIS1 shows sequence homology to β -subunits of heterotrimeric G proteins. Doublecortin contains a consensus AbI phosphorylation site, and it has some sequence homology to a predicted kinase protein. Both proteins are highly expressed in developing brain, suggesting that they may be involved in a signal transduction pathway that is crucial to brain development.

CHROMOSOMAL LOCATION

Genetic locus: PAFAH1B1 (human) mapping to 17p13.3; Pafah1b1 (mouse) mapping to 11 B5.

SOURCE

LIS1 (H-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3-31 at the N-terminus of LIS1 of human origin.

PRODUCT

Each vial contains 200 μg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LIS1 (H-7) is available conjugated to agarose (sc-374586 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374586 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374586 PE), fluorescein (sc-374586 FITC), Alexa Fluor[®] 488 (sc-374586 AF488), Alexa Fluor[®] 546 (sc-374586 AF546), Alexa Fluor[®] 594 (sc-374586 AF594) or Alexa Fluor[®] 647 (sc-374586 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374586 AF680) or Alexa Fluor[®] 790 (sc-374586 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374586 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

LIS1 (H-7) is recommended for detection of LIS1 of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

LIS1 (H-7) is also recommended for detection of LIS1 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for LIS1 siRNA (h): sc-35814, LIS1 siRNA (m): sc-35815, LIS1 shRNA Plasmid (h): sc-35814-SH, LIS1 shRNA Plasmid (m): sc-35815-SH, LIS1 shRNA (h) Lentiviral Particles: sc-35814-V and LIS1 shRNA (m) Lentiviral Particles: sc-35815-V.

STORAGE

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

DATA





LIS1 (H-7): sc-374586. Western blot analysis of LIS1 expression in SH-SY5Y (A), HeLa (B), NIH/3T3 (C), BC₃H1 (D), C6 (E) and H19-7/IGF-IR (F) whole cell lusates

LIS1 (H-7): sc-374586. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse (A) and rat (B) testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

- Hong, H., et al. 2019. Extraciliary roles of the ciliopathy protein JBTS17 in mitosis and neurogenesis. Ann. Neurol. 86: 99-115.
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- Mori, Y., et al. 2021. Cdc42 is required for male germline niche development in mice. Cell Rep. 36: 109550.
- Wu, Y.O., et al. 2021. Overexpression of the microtubule-binding protein CLIP-170 induces a +TIP network superstructure consistent with a biomolecular condensate. PLoS ONE 16: e0260401.
- Ishii, K., et al. 2022. Reelin regulates the migration of late-born hippocampal CA1 neurons via cofilin phosphorylation. Mol. Cell. Neurosci. 124: 103794.
- Feng, Y., et al. 2022. Sertoli cell survival and barrier function are regulated by miR-181c/d-Pafah1b1 axis during mammalian spermatogenesis. Cell. Mol. Life Sci. 79: 498.
- Mitevska, O., et al. 2023. LIS1-dynein drives corona compaction and limits erroneous microtubule attachment at kinetochores. J. Cell Sci. 136: jcs260226.
- 9. Nakamura, Y., et al. 2023. A complex of type I platelet-activating factor acetylhydrolase (PAF-AH) catalytic subunits switches from $\alpha 1/\alpha 2$ heterodimer to $\alpha 2/\alpha 2$ homodimer during adipocyte differentiation of 3T3-L1 cells. Biol. Pharm. Bull. 46: 257-262.

RESEARCH USE

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

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Molecular Weight of LIS1: 47 kDa.