

## LIS1 (C-7): sc-393320

### 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  $\beta$ -subunits of heterotrimeric G proteins. Doublecortin contains a consensus Abl 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.

### REFERENCES

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- Garcia-Higuera, I., et al. 1996. Folding of proteins with WD-repeats: comparison of six members of the WD-repeat superfamily to the G protein  $\beta$  subunit. *Biochemistry* 35: 13985-13994.
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- Walsh, C.A. 1998. LISsen up! *Nat. Genet.* 19: 307-308.
- des Portes, V., et al. 1998. A novel CNS gene required for neuronal migration and involved in X-linked subcortical laminar heterotopia and lissencephaly syndrome. *Cell* 92: 51-61.
- Gleeson, J.G., et al. 1998. Doublecortin, a brain-specific gene mutated in human X-linked lissencephaly and double cortex syndrome, encodes a putative signaling protein. *Cell* 92: 63-72.
- Shu, T., et al. 2004. Ndel1 operates in a common pathway with LIS1 and cytoplasmic dynein to regulate cortical neuronal positioning. *Neuron* 44: 263-277.
- Jimenez-Mateos, E.M., et al. 2005. Binding of microtubule-associated protein 1B to LIS1 affects the interaction between dynein and LIS1. *Biochem. J.* 389: 333-341.
- Rehberg, M., et al. 2005. *Dictyostelium* LIS1 is a centrosomal protein required for microtubule/cell cortex interactions, nucleus/centrosome linkage, and Actin dynamics. *Mol. Biol. Cell* 16: 2759-2771.

### CHROMOSOMAL LOCATION

Genetic locus: PFAFH1B1 (human) mapping to 17p13.3; Pafah1b1 (mouse) mapping to 11 B5.

### SOURCE

LIS1 (C-7) is a mouse monoclonal antibody raised against amino acids 1-300 mapping near the N-terminus of LIS1 of human origin.

### RESEARCH USE

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

### PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

LIS1 (C-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  $\mu$ 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 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.

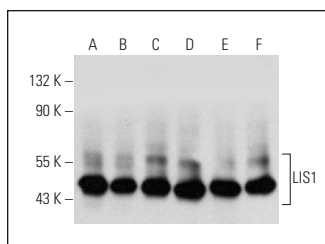
Molecular Weight of LIS1: 47 kDa.

Positive Controls: HEK293T whole cell lysate: sc-45137, Caki-1 cell lysate: sc-2224 or KNRK whole cell lysate: sc-2214.

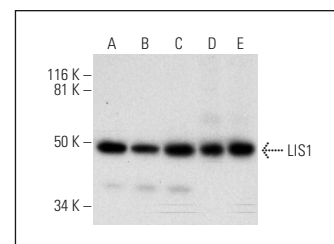
### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

### DATA



LIS1 (C-7): sc-393320. Western blot analysis of LIS1 expression in SH-SY5Y (A), HeLa (B), NIH/3T3 (C), BC<sub>3</sub>H1 (D), C6 (E) and H19-7/IGF-IR (F) whole cell lysates.



LIS1 (C-7): sc-393320. Western blot analysis of LIS1 expression in HEK293T (A), Caki-1 (B) and KNRK (C) whole cell lysates and mouse brain (D) and rat brain (E) tissue extracts.

### SELECT PRODUCT CITATIONS

- Even, A., et al. 2019. ATAT1-enriched vesicles promote microtubule acetylation via axonal transport. *Sci. Adv.* 5: eaax2705.

### STORAGE

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