

LIS1 (N-19): sc-7577

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 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.

CHROMOSOMAL LOCATION

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

SOURCE

LIS1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of LIS1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-7577 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LIS1 (N-19) is recommended for detection of LIS1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 (N-19) 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.

Molecular Weight of LIS1: 47 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, rat kidney extract: sc-2394 or LIS1 (m): 293T Lysate: sc-125547.

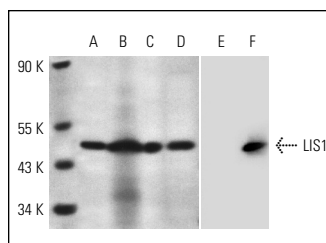
STORAGE

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

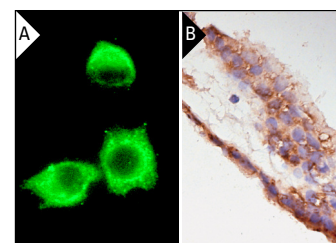
RESEARCH USE

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

DATA



LIS1 (N-19): sc-7577. Western blot analysis of LIS1 expression in KNRK (A) whole cell lysate, rat kidney (B), rat brain (C) and mouse brain (D) extracts, and non-transfected: sc-117752 (E) and mouse LIS1 transfected: sc-125547 (F) 293T whole cell lysates.



LIS1 (N-19): sc-7577. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization (A) and immunoperoxidase staining of formalin-fixed, paraffin-embedded human brain showing cytoplasmic staining (B).

SELECT PRODUCT CITATIONS

- Feng, Y., et al. 2000. LIS1 regulates CNS lamination by interacting with mNudE, a central component of the centrosome. *Neuron* 28: 665-679.
- Sasaki, S., et al. 2000. A LIS1/nudel/cytoplasmic Dynein heavy chain complex in the developing and adult nervous system. *Neuron* 28: 681-696.
- Toyo-oka, K., et al. 2003. 14-3-3 ϵ is important for neuronal migration by binding to nudel: a molecular explanation for Miller-Dieker syndrome. *Nat. Genet.* 34: 274-285.
- Tanaka, T., et al. 2004. LIS1 and doublecortin function with Dynein to mediate coupling of the nucleus to the centrosome in neuronal migration. *J. Cell Biol.* 165: 709-721.
- Riera, J., et al. 2007. Isolation and characterization of nudC from mouse macrophages, a gene implicated in the inflammatory response through the regulation of PAF-AH(I) activity. *FEBS Lett.* 581: 3057-3062.
- Pedersen, L.B., et al. 2007. The lissencephaly protein LIS1 is present in motile mammalian cilia and requires outer arm Dynein for targeting to *Chlamydomonas flagella*. *J. Cell Sci.* 120: 858-867.
- Korshunov, A., et al. 2007. Recurrent cytogenetic aberrations in central neurocytomas and their biological relevance. *Acta Neuropathol.* 113: 303-312.
- Zhang, Y., et al. 2009. Adult neurogenesis in the crayfish brain: proliferation, migration, and possible origin of precursor cells. *Dev. Neurobiol.* 69: 415-436.

MONOS
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Try **LIS1 (H-7): sc-374586** or **LIS1 (C-7): sc-393320**, our highly recommended monoclonal alternatives to LIS1 (N-19).