LIS1 (K-16): sc-14936



The Power to Question

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.

REFERENCES

- 1. Reiner, O., et al. 1993. Isolation of a Miller-Dieker lissencephaly gene containing G protein β -subunit-like repeats. Nature 364: 717-721.
- 2. 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 β subunit. Biochemistry 35: 13985-13994.
- Albrecht, U., et al. 1996. Platelet-activating factor acetylhydrolase expression and activity suggest a link between neuronal migration and platelet-activating factor. Dev. Biol. 180: 579-593.
- 4. 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.
- 6. 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 6: 2759-2771.

CHROMOSOMAL LOCATION

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

SOURCE

LIS1 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LIS1 of human origin.

RESEARCH USE

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

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-14936 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LIS1 (K-16) 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), 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).

LIS1 (K-16) is also recommended for detection of LIS1 in additional species, including equine, 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 rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **LIS1 (H-7):** sc-374586 or **LIS1 (C-7):** sc-393320, our highly recommended monoclonal alternatives to LIS1 (K-16).