

LHX5 (KP-02): sc-130469

BACKGROUND

During development, genetically distinct subtypes of motor neurons express unique combinations of LIM-type homeodomain factors, which regulate cell migration and guide motor axons to establish the fidelity of a binary choice in axonal trajectory. The LIM gene family encodes a set of gene products, which carry the LIM domain, a unique cysteine-rich zinc-binding domain. At least 40 members of this family have been identified in vertebrates and invertebrates, and are distributed into 4 groups according to the number of LIM domains and to the presence of homeodomains and kinase domains. The human LHX5 gene maps to chromosome 12q24.13 and encodes a 402 amino acid protein. The hippocampus contains the neural circuitry, which is crucial for cognitive functions such as learning and memory. LHX5 regulates precursor cell proliferation and neuronal differentiation and migration during hippocampal development.

REFERENCES

- Lilly, B., et al. 1999. The LIM homeodomain protein dLim1 defines a subclass of neurons within the embryonic ventral nerve cord of *Drosophila*. *Mech. Dev.* 88: 195-205.
- Zhao, Y., et al. 1999. Control of hippocampal morphogenesis and neuronal differentiation by the LIM homeobox gene *Lhx5*. *Science* 284: 1155-1158.
- Cheah, S.S., et al. 2000. Requirement of LIM domains for LIM1 function in mouse head development. *Genesis* 27: 12-21.
- Sharma, K., et al. 2000. Genetic and epigenetic mechanisms contribute to motor neuron pathfinding. *Nature* 406: 515-519.
- Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605992: World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- LocusLink Report (LocusID: 3975). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: LHX5 (human) mapping to 12q24.13; *Lhx5* (mouse) mapping to 5 F.

SOURCE

LHX5 (KP-02) is a mouse monoclonal antibody raised against recombinant LHX5 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 for detailed protocols and support products.

APPLICATIONS

LHX5 (KP-02) is recommended for detection of LHX5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LHX5 siRNA (h): sc-38716, LHX5 siRNA (m): sc-38717, LHX5 shRNA Plasmid (h): sc-38716-SH, LHX5 shRNA Plasmid (m): sc-38717-SH, LHX5 shRNA (h) Lentiviral Particles: sc-38716-V and LHX5 shRNA (m) Lentiviral Particles: sc-38717-V.

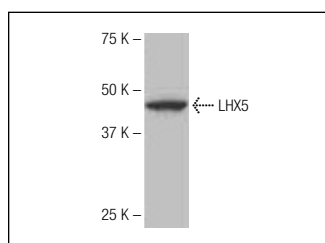
Molecular Weight of LHX5: 44 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

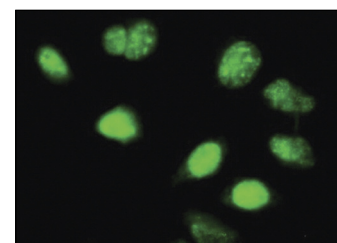
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LHX5 (KP-02): sc-130469. Western blot analysis of LHX5 expression in Jurkat whole cell lysate.



LHX5 (KP-02): sc-130469. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Cruz-Molina, S., et al. 2017. PRC2 facilitates the regulatory topology required for poised enhancer function during pluripotent stem cell differentiation. *Cell Stem Cell* 20: 689-705.
- Yang, Y., et al. 2017. Derivation of pluripotent stem cells with *in vivo* embryonic and extraembryonic potency. *Cell* 169: 243-257.

RESEARCH USE

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