

# LHX1 (2A8): sc-293475

## 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 overlapping expression of LHX1, LHX3, LHX4, Isl-1 and Isl-2 in developing motor neurons along the spinal column may influence the establishment of specific motoneuron subtypes. The human LHX1 gene maps to chromosome 17q12 and encodes a 384 amino acid protein. The human LHX1 transcript is assembled from five exons, which are separated by introns ranging in size from 93 nt to 2.3 kb. The two LIM domains are entirely contained in the first and second exons, respectively, while the homeodomain is split into exons three and four.

## REFERENCES

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2. Jurata, L.W., et al. 1998. The nuclear LIM domain interactor NLI mediates homo- and heterodimerization of LIM domain transcription factors. *J. Biol. Chem.* 273: 3152-3157.
3. 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.
4. Cheah, S.S., et al. 2000. Requirement of LIM domains for LIM1 function in mouse head development. *Genesis* 27: 12-21.
5. Sharma, K., et al. 2000. Genetic and epigenetic mechanisms contribute to motor neuron pathfinding. *Nature* 406: 515-519.
6. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 601999. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. LocusLink Report (LocusID: 3975). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: LHX1 (human) mapping to 17q12; Lhx1 (mouse) mapping to 11 C.

## SOURCE

LHX1 (2A8) is a mouse monoclonal antibody raised against amino acids 1-100 representing partial length LHX1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

LHX1 (2A8) is recommended for detection of LHX1 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

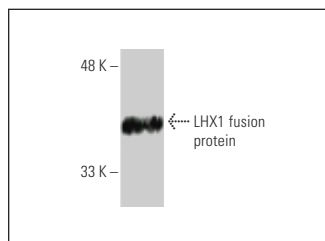
Suitable for use as control antibody for LHX1 siRNA (h): sc-38708, LHX1 siRNA (m): sc-38709, LHX1 shRNA Plasmid (h): sc-38708-SH, LHX1 shRNA Plasmid (m): sc-38709-SH, LHX1 shRNA (h) Lentiviral Particles: sc-38708-V and LHX1 shRNA (m) Lentiviral Particles: sc-38709-V.

Molecular Weight of LHX1: 45 kDa.

## 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).

## DATA



LHX1 (2A8): sc-293475. Western blot analysis of human recombinant LHX1 fusion protein.

## 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](http://www.scbt.com) for detailed protocols and support products.