

LHX1 (C-6): sc-515631

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 motoneurons 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

1. Bozzi, F., et al. 1996. The exon-intron structure of human LHX1 gene. *Biochem. Biophys. Res. Commun.* 229: 494-497.
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.

CHROMOSOMAL LOCATION

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

SOURCE

LHX1 (C-6) is a mouse monoclonal antibody raised against amino acids 121-163 mapping within an internal region of LHX1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-515631 X, 200 µg/0.1 ml.

LHX1 (C-6) is available conjugated to agarose (sc-515631 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515631 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515631 PE), fluorescein (sc-515631 FITC), Alexa Fluor[®] 488 (sc-515631 AF488), Alexa Fluor[®] 546 (sc-515631 AF546), Alexa Fluor[®] 594 (sc-515631 AF594) or Alexa Fluor[®] 647 (sc-515631 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-515631 AF680) or Alexa Fluor[®] 790 (sc-515631 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

LHX1 (C-6) is recommended for detection of LHX1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

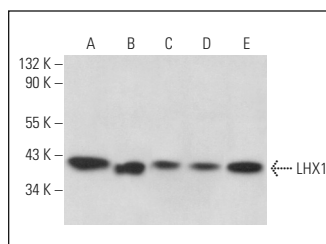
Suitable for use as control antibody for LHX1 siRNA (h): sc-38708, LHX1 siRNA (m): sc-38709, LHX1 shRNA Plasmid (h): sc-38708-SH, LHX1 shRNA Plasmid (m): sc-38709-SH, LHX1 shRNA (h) Lentiviral Particles: sc-38708-V and LHX1 shRNA (m) Lentiviral Particles: sc-38709-V.

LHX1 (C-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

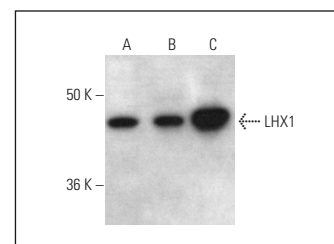
Molecular Weight of LHX1: 45 kDa.

Positive Controls: U-698-M whole cell lysate: sc-364799, Hep G2 cell lysate: sc-2227 or Jurkat nuclear extract: sc-2132.

DATA



LHX1 (C-6): sc-515631. Western blot analysis of LHX1 expression in Jurkat (A) and MOLT-4 (B) nuclear extracts and THP-1 (C), K-562 (D) and CCRF-CEM (E) whole cell lysates.



LHX1 (C-6): sc-515631. Western blot analysis of LHX1 expression in U-698-M (A) and Hep G2 (B) whole cell lysates and Jurkat nuclear extract (C).

SELECT PRODUCT CITATIONS

1. Bethea, M., et al. 2019. The islet-expressed LHX1 transcription factor interacts with Islet-1 and contributes to glucose homeostasis. *Am. J. Physiol. Endocrinol. Metab.* 316: E397-E409.
2. Zhang, D., et al. 2020. *In vitro* induction and *in vivo* engraftment of kidney organoids derived from human pluripotent stem cells. *Exp. Ther. Med.* 20: 1307-1314.

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.

PROTOCOLS

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