

# LHX6 (JJ-06): sc-81970

## 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 proteins which carry the LIM domain, a unique cysteine-rich zinc-binding motif. LHX6 (LIM homeobox 6), also known as LHX6.1, is a 363 amino acid nuclear protein that contains two LIM zinc-binding domains and one homeobox DNA-binding domain. Expressed specifically in brain, LHX6 is thought to function as a transcriptional regulator that may play a role in the development and differentiation of lymphoid and neural cells. Additionally, LHX6 is hypermethylated in head and neck carcinomas and may be a novel tumor marker. Two isoforms of LHX6, designated LHX6.1A and LHX6.1B, exist due to alternative splicing events.

## REFERENCES

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2. Kimura, N., et al. 1999. A brain region-specific gene product LHX6.1 interacts with LDB1 through tandem LIM-domains. *J. Biochem.* 126: 180-187.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608215. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Gong, S., et al. 2003. A gene expression atlas of the central nervous system based on bacterial artificial chromosomes. *Nature* 425: 917-925.
5. Alifragis, P., et al. 2004. LHX6 regulates the migration of cortical interneurons from the ventral telencephalon but does not specify their GABA phenotype. *J. Neurosci.* 24: 5643-5648.
6. Choi, G.B., et al. 2005. LHX6 delineates a pathway mediating innate reproductive behaviors from the amygdala to the hypothalamus. *Neuron* 46: 647-660.
7. Estécio, M.R., et al. 2006. LHX6 is a sensitive methylation marker in head and neck carcinomas. *Oncogene* 25: 5018-5026.
8. Liodis, P., et al. 2007. Lhx6 activity is required for the normal migration and specification of cortical interneuron subtypes. *J. Neurosci.* 27: 3078-3089.
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## CHROMOSOMAL LOCATION

Genetic locus: LHX6 (human) mapping to 9q33.2; Lhx6 (mouse) mapping to 2 B.

## SOURCE

LHX6 (JJ-06) is a mouse monoclonal antibody raised against recombinant LHX6 of human origin.

## PRODUCT

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

## APPLICATIONS

LHX6 (JJ-06) is recommended for detection of LHX6 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 LHX6 siRNA (h): sc-75425, LHX6 siRNA (m): sc-75426, LHX6 shRNA Plasmid (h): sc-75425-SH, LHX6 shRNA Plasmid (m): sc-75426-SH, LHX6 shRNA (h) Lentiviral Particles: sc-75425-V and LHX6 shRNA (m) Lentiviral Particles: sc-75426-V.

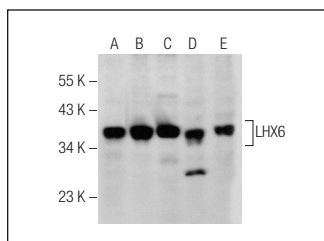
Molecular Weight of LHX6: 40 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, RAW 264.7 whole cell lysate: sc-2211 or DU 145 nuclear extract: sc-24960.

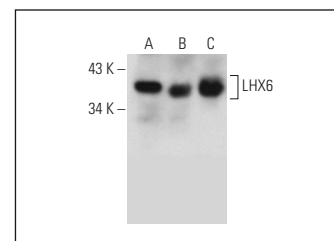
## RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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



LHX6 (JJ-06): sc-81970. Western blot analysis of LHX6 expression in NIH/3T3 (A), MDA-MB-231 (B), T-47D (C), U87-MG (D) and PC-3 (E) whole cell lysates.



LHX6 (JJ-06): sc-81970. Western blot analysis of LHX6 expression in RAW 264.7 whole cell lysate (A), DU 145 (B) and IMR-32 (C) nuclear extracts.

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