

## LHX6 (C-20): sc-69430

### 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

1. Grigoriou, M., Tucker, A.S., Sharpe, P.T. and Pachnis, V. 1998. Expression and regulation of LHX6 and LHX7, a novel subfamily of LIM homeodomain encoding genes, suggests a role in mammalian head development. *Development* 125: 2063-2074.
2. Kimura, N., Ueno, M., Nakashima, K. and Taga, T. 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., Zheng, C., Doughty, M.L., Losos, K., Didkovsky, N., Schambra, U.B., Nowak, N.J., Joyner, A., Leblanc, G., Hatten, M.E. and Heintz, N. 2003. A gene expression atlas of the central nervous system based on bacterial artificial chromosomes. *Nature* 425: 917-925.
5. Alifragis, P., Liapi, A. and Parnavelas, J.G. 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., Dong, H.W., Murphy, A.J., Valenzuela, D.M., Yancopoulos, G.D., Swanson, L.W. and Anderson, D.J. 2005. LHX6 delineates a pathway mediating innate reproductive behaviors from the amygdala to the hypothalamus. *Neuron* 46: 647-660.
7. Estécio, M.R., Youssef, E.M., Rahal, P., Fukuyama, E.E., Góis-Filho, J.F., Maniglia, J.V., Goloni-Bertollo, E.M., Issa, J.P. and Tajara, E.H. 2006. LHX6 is a sensitive methylation marker in head and neck carcinomas. *Oncogene* 25: 5018-5026.

### CHROMOSOMAL LOCATION

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

### SOURCE

LHX6 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LHX6 of human origin.

### 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-69430 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-69430 X, 200 µg/0.1 ml.

### APPLICATIONS

LHX6 (C-20) 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)], 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).

LHX6 (C-20) is also recommended for detection of LHX6 in additional species, including canine and bovine.

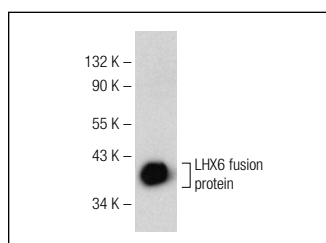
Suitable for use as control antibody for LHX6 siRNA (h): sc-75425, LHX6 siRNA (m): sc-75426, LHX6 shRNA Plasmid (h): sc-75425-SH, LHX6 shRNA Plasmid (m): sc-75426-SH, LHX6 shRNA (h) Lentiviral Particles: sc-75425-V and LHX6 shRNA (m) Lentiviral Particles: sc-75426-V.

LHX6 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of LHX6: 40 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, DU 145 nuclear extract: sc-24960 or IMR-32 nuclear extract: sc-2148.

### DATA



LHX6 (C-20): sc-69430. Western blot analysis of human recombinant LHX6 fusion protein.

### 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.