SANTA CRUZ BIOTECHNOLOGY, INC.

LHX4 (C-15): sc-22138

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The LIM domain (a zinc finger structure) is a protein-protein interaction motif found in several protein types, including homeodomain transcription factors and kinases, which has a role in many cellular processes. The LIM family of homeodomain proteins plays a role in organismal differentiation and development. Specifically, LHX4 and closely related LHX3 play essential roles in multiple developmental stages of the pituitary gland in mice. The LHX4 gene is expressed in murine fetal brain, spinal cord and cerebral cortex. In addition, Lhx4 is expressed in the cerebral cortex and in the motor neurons of the CNS in adult rodents. A specific murine LHX4 gene mutation results in a short stature phenotype, pituitary and cerebelllar defects and sella turcica malformations. The LHX4 gene may be implicated in the t(1;4)(q25;q32) chromosomal translocation, which is associated with acute lymphoblastic leukemia. The LHX4 gene is also expressed in leukemic cells and may activate leukemogenesis. The human LHX4 gene maps to chromosome 1q25.2 and encodes a 390 amino acid protein.

REFERENCES

1. Chen, B., Fan, M. and Zhou, C.M. 1997. LIM homeobox genes family in nervous system. Sheng Li Ke Xue Jin Zhan 28: 24-28.
2. Sheng, H.Z., Moriyama, K., Yamashita, T., Li, H., Potter, S.S., Mahon, K.A. and Westphal, H. 1997. Multistep control of pituitary organogenesis. Science 278: 1809-1812.
3. Bach, I. 2000. The LIM domain: regulation by association. Mech. Dev. 91: 5-17.
4. Machinis, K., Pantel, J., Netchine, I., Leger, J., Camand, O.J., Sobrier, M.L., Dastot-Le Moal, F., Duquesnoy, P., Abitbol, M., Czernichow, P. and Amselem, S. 2001. Syndromic short stature in patients with a germline mutation in the LIM homeobox LHX4. Am. J. Hum. Gen. 69: 961-968.

CHROMOSOMAL LOCATION

Genetic locus: LHX4 (human) mapping to 1q25.2; Lhx4 (mouse) mapping to 1 G3.

SOURCE

LHX4 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LHX4 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-22138 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-22138 X, 200 µg/0.1 ml.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

LHX4 (C-15) is recommended for detection of LHX4 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).

LHX4 (C-15) is also recommended for detection of LHX4 in additional species, including equine, canine, bovine and porcine.

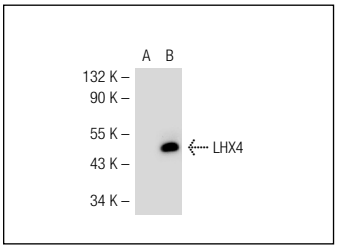
Suitable for use as control antibody for LHX4 siRNA (h): sc-38714, LHX4 siRNA (m): sc-38715, LHX4 shRNA Plasmid (h): sc-38714-SH, LHX4 shRNA Plasmid (m): sc-38715-SH, LHX4 shRNA (h) Lentiviral Particles: sc-38714-V and LHX4 shRNA (m) Lentiviral Particles: sc-38715-V.

LHX4 (C-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of LHX4: 43 kDa.

Positive Controls: LHX4 (m): 293T Lysate: sc-121333 or HOS cell lysate: sc-2275.

DATA



LHX4 (C-15): sc-22138. Western blot analysis of LHX4 expression in non-transfected: sc-117752 (**A**) and mouse LHX4 transfected: sc-121333 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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