

# LHX4 (E-10): sc-374562

## 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 cerebellar 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

LHX4 (E-10) is a mouse monoclonal antibody raised against a peptide mapping near the C-terminus of LHX4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> 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-374562 X, 200 µg/0.1 ml.

LHX4 (E-10) is available conjugated to agarose (sc-374562 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374562 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374562 PE), fluorescein (sc-374562 FITC), Alexa Fluor® 488 (sc-374562 AF488), Alexa Fluor® 546 (sc-374562 AF546), Alexa Fluor® 594 (sc-374562 AF594) or Alexa Fluor® 647 (sc-374562 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374562 AF680) or Alexa Fluor® 790 (sc-374562 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374562 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## 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.

## APPLICATIONS

LHX4 (E-10) is recommended for detection of LHX4 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).

LHX4 (E-10) 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 (E-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

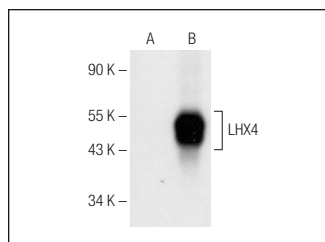
Molecular Weight of LHX4: 43 kDa.

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

## 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



LHX4 (E-10): sc-374562. Western blot analysis of LHX4 expression in non-transfected: sc-117752 (A) and mouse LHX4 transfected: sc-121333 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Dong, X., et al. 2019. Generation and characterization of Lhx4<sup>tdT</sup> reporter knock-in and Lhx4<sup>loxP</sup> conditional knockout mice. *Genesis* 57: e23328.

## RESEARCH USE

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