SANTA CRUZ BIOTECHNOLOGY, INC.

LHX6 (A-9): sc-271433

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

LHX6 (A-9) is a mouse monoclonal antibody raised against amino acids 1-75 mapping at the N-terminus of LHX6 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-271433 X, 200 µg/0.1 ml.

LHX6 (A-9) is available conjugated to agarose (sc-271433 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271433 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271433 PE), fluorescein (sc-271433 FITC), Alexa Fluor® 488 (sc-271433 AF488), Alexa Fluor® 546 (sc-271433 AF546), Alexa Fluor® 594 (sc-271433 AF594) or Alexa Fluor® 647 (sc-271433 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271433 AF680) or Alexa Fluor® 790 (sc-271433 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

LHX6 (A-9) is recommended for detection of LHX6 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 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.

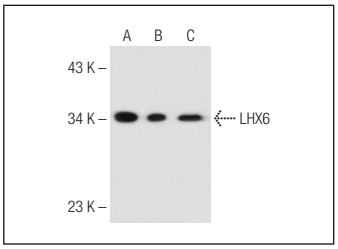
LHX6 (A-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of LHX6: 40 kDa.

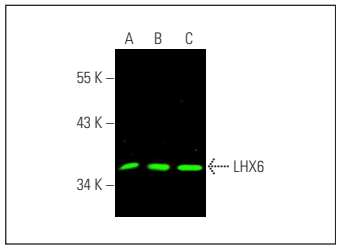
STORAGE

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

DATA



LHX6 (A-9): sc-271433. Western blot analysis of LHX6 expression in DU 145 (**A**), IMR-32 (**B**) and HeLa (**C**) nuclear extacts.



LHX6 (A-9) Alexa Fluor® 680: sc-271433 AF680. Direct near-infrared western blot analysis of LHX6 expression in K-562 whole cell lysate (**A**) and HeLa (**B**) and IMR-32 (**C**) nuclear extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Abdi, A., et al. 2015. Prototypic and arkypallidal neurons in the dopamine-intact external globus pallidus. J. Neurosci. 35: 6667-6688.
2. Oh, Y.M., et al. 2017. Using a novel PV-Cre rat model to characterize pallidonigral cells and their terminations. Brain Struct. Funct. 222: 2359-2378.
3. Lozovaya, N., et al. 2018. GABAergic inhibition in dual-transmission cholinergic and GABAergic striatal interneurons is abolished in Parkinson disease. Nat. Commun. 9: 1422.
4. Liu, Z., et al. 2019. Sp9 regulates medial ganglionic eminence-derived cortical interneuron development. Cereb. Cortex 29: 2653-2667.
5. Chang, C.C., et al. 2020. Developmental characterization of ZSWIM5 expression in the progenitor domains and tangential migration pathways of cortical interneurons in the mouse forebrain. J. Comp. Neurol. 528: 2404-2419.
6. Kim, D.W., et al. 2021. Gene regulatory networks controlling differentiation, survival, and diversification of hypothalamic LHX6-expressing GABAergic neurons. Commun. Biol. 4: 95.
7. Lambert, J.T., et al. 2021. Parallel functional testing identifies enhancers active in early postnatal mouse brain. Elife 10: e69479.
8. Yu, D., et al. 2022. Microglial GPR56 is the molecular target of maternal immune activation-induced parvalbumin-positive interneuron deficits. Sci. Adv. 8: eabm2545.
9. D'Arcy, B.R., et al. 2023. Non-muscle myosins control radial glial basal endfeet to mediate interneuron organization. PLoS Biol. 21: e3001926.

RESEARCH USE

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