SANTA CRUZ BIOTECHNOLOGY, INC.

HoxB1 (N-20): sc-17161

The Power to Question

BACKGROUND

Hox genes play a fundamental role in the development of the vertebrate central nervous system, heart, axial skeleton, limbs, gut, urogenital tract and external genitalia. The homeobox gene HoxB1 is critical to hindbrain development and has phenotypic features frequently observed in autism. Analysis of expression and targeted disruption of HoxB1 demonstrates that it is also essential for patterning progenitor cells along the entire DV axis of rhombomere 4 (r4). HoxB1 maintains this function by acting very early during hindbrain neurogenesis to specify effectors of the Sonic hedgehog and Mash1 signaling pathways. HoxB2 is a homeodomain protein important in neural development that is also expressed during erythropoiesis, hindbrain development and normal human adult lung development. HoxB2 may modulate the amount of γ-globin mRNA expressed during development and differentiation. In addition, HoxB2 plays an important role in the patterning of hindbrain and pharyngeal arches in the zebrafish.

REFERENCES

1. Yan, Y.L., et al. 1998. Ectopic expression of HoxB2 after retinoic acid treatment or mRNA injection: disruption of hindbrain and craniofacial morphogenesis in zebrafish embryos. Dev. Dyn. 213: 370-385.
2. Case, S.S., et al. 1999. The γPE complex contains both SATB1 and HoxB2 and has positive and negative roles in human γ-globin gene regulation. DNA Cell Biol. 18: 805-817.
3. Ingram, J.L., et al. 2000. Discovery of allelic variants of HoxA1 and HoxB1: genetic susceptibility to autism spectrum disorders. Teratology 62: 393-405.
4. Gaufo, G.O., et al. 2000. HoxB1 controls effectors of Sonic hedgehog and Mash1 signaling pathways. Development 127: 5343-5354.
5. Goodman, F.R., et al. 2001. Human HOX gene mutations. Clin. Genet. 59: 1-11.
6. Golpon, H.A., et al. 2001. HOX genes in human lung: altered expression in primary pulmonary hypertension and emphysema. Am. J. Pathol. 158: 955-966.

CHROMOSOMAL LOCATION

Genetic locus: HOXB1 (human) mapping to 17q21.3; Hoxb1 (mouse) mapping to 11 D.

SOURCE

HoxB1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HoxB1 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-17161 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-17161 X, 200 µg/0.1 ml.

APPLICATIONS

HoxB1 (N-20) is recommended for detection of HoxB1 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for HoxB1 siRNA (h): sc-38686, HoxB1 siRNA (m): sc-38687, HoxB1 shRNA Plasmid (h): sc-38686-SH, HoxB1 shRNA Plasmid (m): sc-38687-SH, HoxB1 shRNA (h) Lentiviral Particles: sc-38686-V and HoxB1 shRNA (m) Lentiviral Particles: sc-38687-V.

HoxB1 (N-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

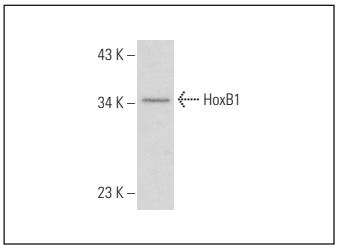
Molecular Weight of HoxB1: 38 kDa.

Positive Controls: A-431 nuclear extract: sc-2122.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), 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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HoxB1 (N-20): sc-17161. Western blot analysis of HoxB1 expression in A-431 nuclear extract.

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 or our catalog for detailed protocols and support products.