

# HoxB2 (H-100): sc-28604

## 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 gamma-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  $\gamma$ PE complex contains both SATB1 and HoxB2 and has positive and negative roles in human gamma-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: HOXB2 (human) mapping to 17q21-q22; Hoxb2 (mouse) mapping to 11 D.

## SOURCE

HoxB2 (H-100) is a rabbit polyclonal antibody raised against amino acids 201-267 mapping within an internal region of HoxB2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

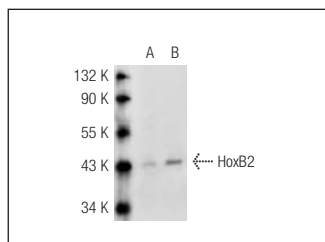
HoxB2 (H-100) is recommended for detection of HoxB2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2  $\mu$ g per 100–500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HoxB2 siRNA (h): sc-38688.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



HoxB2 (H-100): sc-28604. Western blot analysis of HoxB2 expression in non-transfected: sc-117752 (A) and mouse HoxB2 transfected: sc-125466 (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](http://www.scbt.com) or our catalog for detailed protocols and support products.