SANTA CRUZ BIOTECHNOLOGY, INC.

HoxB2 (m): 293T Lysate: sc-125466

SANTA CRUZ BIOTECHNOLOGY

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., Jowett, T. and Postlethwait, J.H. 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., Huber, P. and Lloyd, J.A. 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., Stodgell, C.J., Hyman, S.L., Figlewicz, D.A., Weitkamp, L.R. and Rodier, P.M. 2000. Discovery of allelic variants of HoxA1 and HoxB1: genetic susceptibility to autism spectrum disorders. Teratology 62: 393-405.
4. Gaufo, G.O., Flodby, P. and Capecchi, M.R. 2000. HoxB1 controls effectors of Sonic hedgehog and Mash1 signaling pathways. Development 127: 5343-5354.
5. Goodman, F.R. and Scambler, P.J. 2001. Human HOX gene mutations. Clin. Genet. 59: 1-11.
6. Golpon, H.A., Geraci, M.W., Moore, M.D., Miller, H.L., Miller, G.J., Tuder, R.M. and Voelkel, N.F. 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 (mouse) mapping to 11 D.

PRODUCT

HoxB2 (m): 293T Lysate represents a lysate of mouse HoxB2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

HoxB2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive HoxB2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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

PROTOCOLS

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