SANTA CRUZ BIOTECHNOLOGY, INC.

HoxB4 (h): 293T Lysate: sc-116031

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The homeobox genes encode a family of transcription factors that regulate development and postnatal tissue homeostasis. Encoded by the HOXB4 gene, the nuclear phosphoprotein HoxB4 plays a key role in regulating the balance between hematopoietic stem cell renewal and differentiation. Hematopoietic expression of HoxB4 is regulated by the binding of USF-1 and USF-2, the binding of which may be favored by cytokines promoting stem cell self-renewal versus differentiation. HoxB4 is dependent on AP-1 expression to induce changes in cellular proliferation and differentiation, which increases the levels of cyclin D1, thereby linking HoxB4 with key elements of the cell cycle machinery. HoxB4 also participates in the down-regulation of c-Myc expression. It is expressed in developing hair follicles as well as in K-562 and HL-60 cells.

REFERENCES

1. Rabin, M., Hart, C.P., Ferguson-Smith, A., McGinnis, W., Levine, M. and Ruddle, F.H. 1985. Two homoeobox loci mapped in evolutionarily related mouse and human chromosomes. Nature 314: 175-178.
2. Pan, Q. and Simpson, R.U. 1999. c-Myc intron element-binding proteins are required for 1,24-dihydroxyvitamin D3 regulation of c-Myc furing HL-60 cell differentiation and the involvement of HoxB4. J. Biol. Chem. 274: 8437-8444.
3. Giannola, D.M., Shlomchik, W.D., Jegathesan, M., Liebowitz, D., Abrams, C.S., Kadesch, T., Dancis A. and Emerson, S.G. 2000. Hematopoietic expression of HoxB4 is regulated in normal and leukemic stem cells through transcriptional activation of the HoxB4 promoter by upstream stimulating factor (USF)-1 and USF-2. J. Exp. Med. 192: 1479-1490.
4. Krosl, J. and Sauvageau, G. 2000. AP-1 complex is effector of Hox-induced cellular proliferation and transformation. Oncogene 19: 5134-5141.
5. Packer, A.I., Jane-Wit, D., McLean, L., Panteleyev, A.A., Christiano, A.M. and Wolgemuth, D.J. 2000. HoxA4 expression in developing mouse hair follicles and skin. Mech. Dev. 99: 153-157.
6. Pan, Q. and Simpson, R.U. 2001. Antisense knockout of HoxB4 blocks 1,25-dihydrooxy-vitamin D3 inhibition of c-Myc expression. J. Endocrinol. 169: 153-159.

CHROMOSOMAL LOCATION

Genetic locus: HOXB4 (human) mapping to 17q21.32.

PRODUCT

HoxB4 (h): 293T Lysate represents a lysate of human HoxB4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

HoxB4 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive HoxB4 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.

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.

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.