SANTA CRUZ BIOTECHNOLOGY, INC.

HoxB4 (C-10): sc-271083

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 downregulation 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., et al. 1985. Two homoeobox loci mapped in evolutionarily related mouse and human chromosomes. Nature 314: 175-178.
2. Pan, Q., et al. 1999. c-Myc intron element-binding proteins are required for 1, 24-dihydroxyvitamin D_3 regulation of c-Myc furing HL-60 cell differentiation and the involvement of HoxB4. J. Biol. Chem. 274: 8437-8444.
3. Giannola, D.M., et al. 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., et al. 2000. AP-1 complex is effector of Hox-induced cellular proliferation and transformation. Oncogene 19: 5134-5141.
5. Packer, A.I., et al. 2000. Hoxa4 expression in developing mouse hair follicles and skin. Mech. Dev. 99: 153-157.
6. Pan, Q., et al. 2001. Antisense knockout of HoxB4 blocks 1,25-dihydrooxy-vitamin D_3 inhibition of c-Myc expression. J. Endocrinol. 169: 153-159.

CHROMOSOMAL LOCATION

Genetic locus: HOXB4 (human) mapping to 17q21.32; Hoxb4 (mouse) mapping to 11 D.

SOURCE

HoxB4 (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 21-47 near the N-terminus of HoxB4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-271083 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-271083 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

HoxB4 (C-10) is recommended for detection of HoxB4 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).

HoxB4 (C-10) is also recommended for detection of HoxB4 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for HoxB4 siRNA (h): sc-38692, HoxB4 siRNA (m): sc-38693, HoxB4 shRNA Plasmid (h): sc-38692-SH, HoxB4 shRNA Plasmid (m): sc-38693-SH, HoxB4 shRNA (h) Lentiviral Particles: sc-38692-V and HoxB4 shRNA (m) Lentiviral Particles: sc-38693-V.

HoxB4 (C-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

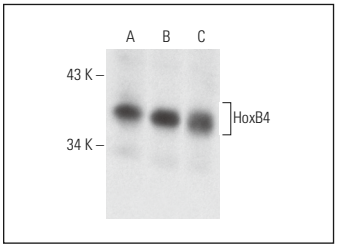
Molecular Weight of HoxB4: 34 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

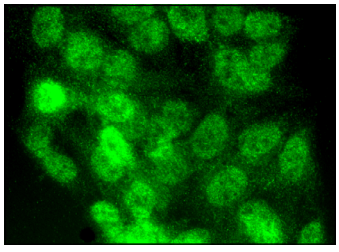
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HoxB4 (C-10): sc-271083. Western blot analysis of HoxB4 expression in Jurkat (**A**), K-562 (**B**) and HeLa (**C**) whole cell lysates.



HoxB4 (C-10): sc-271083. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and cytoplasmic localization.

STORAGE

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

PROTOCOLS

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