

HoxB4 (A-15): sc-15003

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., 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 D3 regulation of c-Myc during 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. Krosi, 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-dihydroxyvitamin D3 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 (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HoxB4 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-15003 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-15003 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

HoxB4 (A-15) is recommended for detection of HoxB4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (A-15) is also recommended for detection of HoxB4 in additional species, including canine 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 (A-15) 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, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

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) 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.

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 or our catalog for detailed protocols and support products.