

HoxB4 (D-1): sc-365927

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 homeobox 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. Krosil, J., et al. 2000. AP-1 complex is effector of Hox-induced cellular proliferation and transformation. *Oncogene* 19: 5134-5141.

CHROMOSOMAL LOCATION

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

SOURCE

HoxB4 (D-1) is a mouse monoclonal antibody raised against amino acids 91-140 mapping within an internal region of HoxB4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HoxB4 (D-1) is available conjugated to agarose (sc-365927 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365927 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365927 PE), fluorescein (sc-365927 FITC), Alexa Fluor® 488 (sc-365927 AF488), Alexa Fluor® 546 (sc-365927 AF546), Alexa Fluor® 594 (sc-365927 AF594) or Alexa Fluor® 647 (sc-365927 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365927 AF680) or Alexa Fluor® 790 (sc-365927 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

HoxB4 (D-1) is recommended for detection of HoxB4 of 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), immunohistochemistry (including paraffin-embedded sections) (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 HoxB4 siRNA (h): sc-38692, HoxB4 shRNA Plasmid (h): sc-38692-SH and HoxB4 shRNA (h) Lentiviral Particles: sc-38692-V.

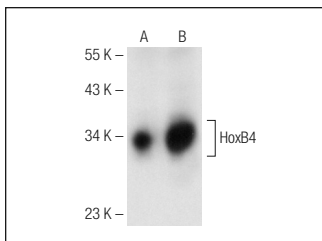
Molecular Weight of HoxB4: 34 kDa.

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

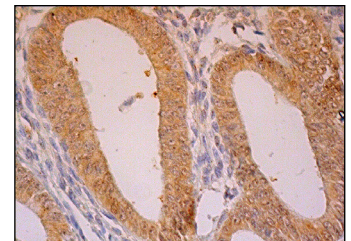
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HoxB4 (D-1): sc-365927. Western blot analysis of HoxB4 expression in Jurkat (A) and K-562 (B) whole cell lysates.



HoxB4 (D-1): sc-365927. Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterus tissue showing cytoplasmic and nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Bonfim-Silva, R., et al. 2017. Functional analysis of HoxA10 and HoxB4 in human medulloblastoma cell lines. *Int. J. Oncol.* 51: 1929-1940.

STORAGE

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