

# HLX1 (1B9): sc-293328

## BACKGROUND

HLX1 (homeobox protein HB24) is a 488 amino acid protein encoded by the human gene HLX1. HLX1 belongs to the H2.0 homeobox family and contains one homeobox DNA-binding domain. HLX1 is considered a diverged human homeo-domain-containing protein known to be expressed in hematopoietic progenitors and activated lymphocytes. HLX1 is a transcription factor required for TBX21/T-bet-dependent maturation of Th1 cells as well as maintenance of Th1-specific gene expression. It is also involved in embryogenesis and hematopoiesis. Overexpression of HLX1 will cause a marked increase in activated T cells/thymocytes and Interleukin-2 receptor expression. Overexpression will also impair the normal development of CD4<sup>+</sup> T cells and will prevent the thymus from undergoing normal involution.

## REFERENCES

1. Deguchi, Y., Moroney, J.F., Wilson, G.L., Fox, C.H., Winter, H.S. and Kehrl, J.H. 1991. Cloning of a human homeobox gene that resembles a diverged *Drosophila* homeobox gene and is expressed in activated lymphocytes. *New Biol.* 3: 353-363.
2. Hollington, P., Neufing, P., Kalionis, B., Waring, P., Bentel, J., Wattchow, D. and Tilley, W.D. 2004. Expression and localization of homeodomain proteins DLX4, HB9 and HB24 in malignant and benign human colorectal tissues. *Anticancer Res.* 24: 955-962.
3. Murthi, P., Doherty, V., Said, J., Donath, S., Brennecke, S.P. and Kalionis, B. 2006. Homeobox gene HLX1 expression is decreased in idiopathic human fetal growth restriction. *Am. J. Pathol.* 168: 511-518.
4. Murthi, P., So, M., Gude, N.M., Doherty, V.L., Brennecke, S.P. and Kalionis, B. 2006. Homeobox genes are differentially expressed in macrovascular human umbilical vein endothelial cells and microvascular placental endothelial cells. *Placenta* 28: 219-223.
5. Jawad, M., Seedhouse, C.H., Russell, N. and Plumb, M. 2006. Polymorphisms in human homeobox HLX1 and DNA repair RAD51 genes increase the risk of therapy-related acute myeloid leukemia. *Blood* 108: 3916-3918.
6. Rajaraman, G., Murthi, P., Leo, B., Brennecke, S.P. and Kalionis, B. 2007. Homeobox gene HLX1 is a regulator of colony stimulating factor-1 dependent trophoblast cell proliferation. *Placenta* 28: 991-998.
7. Kato, Z., Yamagishi, A. and Kondo, N. 2007. Interstitial deletion of 1q42.13-q43 with Duane retraction syndrome. *J. AAPOS* 11: 62-64.
8. Becknell, B., Hughes, T.L., Freud, A.G., Blaser, B.W., Yu, J., Trotta, R., Mao, H.C., Caligiuri de Jesús, M.L., Alghothani, M., Lehman, A., Jarjoura, D., Perrotti, D., Bates, M.D. and Caligiuri, M.A. 2007. Hlx homeobox transcription factor negatively regulates interferon- $\gamma$  production in monokine-activated natural killer cells. *Blood* 109: 2481-2487.

## CHROMOSOMAL LOCATION

Genetic locus: HLX (human) mapping to 1q41; Hlx (mouse) mapping to 1 H5.

## RESEARCH USE

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

## SOURCE

HLX1 (1B9) is a mouse monoclonal antibody raised against amino acids 176-279 of HLX1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

HLX1 (1B9) is recommended for detection of HLX1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HLX1 siRNA (h): sc-62472, HLX1 siRNA (m): sc-62473, HLX1 shRNA Plasmid (h): sc-62472-SH, HLX1 shRNA Plasmid (m): sc-62473-SH, HLX1 shRNA (h) Lentiviral Particles: sc-62472-V and HLX1 shRNA (m) Lentiviral Particles: sc-62473-V.

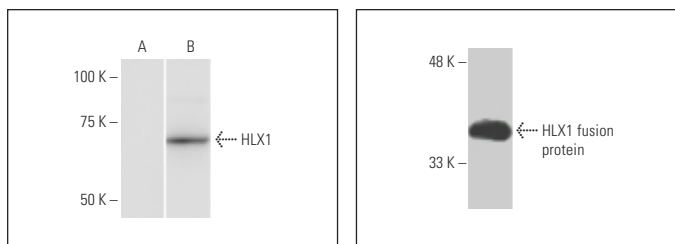
Molecular Weight of HLX1: 51 kDa.

Positive Controls: HLX1 transfected 293T whole cell lysate.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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).

## DATA



HLX1 (1B9): sc-293328. Western blot analysis of HLX1 expression in non-transfected (A) and HLX1 transfected (B) 293T whole cell lysates.

HLX1 (1B9): sc-293328. Western blot analysis of human recombinant HLX1 fusion protein.

## 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](http://www.scbt.com) for detailed protocols and support products.