

# ZHX1 (N-20): sc-47946

## BACKGROUND

Zinc-fingers and homeobox (ZHX) proteins are transcription factors that interact with the activation domain of the A subunit of nuclear factor-Y (NF-YA). ZHX1-3 are ubiquitously expressed proteins expressed in various tissues. They act as transcriptional repressors and localize to the nucleus. The ZHX proteins contain two Cys(2)-His(2)-type zinc-finger motifs and five homeodomains (HDs). These domains allow the ZHX proteins to form homodimers, but they can also form heterodimers with each other. However, this dimerization is not required for repressor activity. Hypermethylation-mediated silencing of ZHX2 is an epigenetic event involved in hepatocellular carcinoma (HCC).

## REFERENCES

1. Yamada, K., Printz, R.L., Osawa, H. and Granner, D.K. 1999. Human ZHX1: cloning, chromosomal location, and interaction with transcription factor NF-Y. *Biochem. Biophys. Res. Commun.* 261: 614-621.
2. Hirano, S., Yamada, K., Kawata, H., Shou, Z., Mizutani, T., Yazawa, T., Kajitani, T., Sekiguchi, T., Yoshino, M., Shigematsu, Y., Mayumi, M. and Miyamoto, K. 2002. Rat zinc-fingers and homeob protein, forms a homodimer. *Gene* 290: 107-114.
3. Yamada, K., Kawata, H., Matsuura, K., Shou, Z., Hirano, S., Mizutani, T., Yazawa, T., Yoshino, M., Sekiguchi, T., Kajitani, T. and Miyamoto, K. 2002. Functional analysis and the molecular dissection of zinc-fingers and homeoboxes 1 (ZHX1). *Biochem. Biophys. Res. Commun.* 297: 368-374.
4. Shou, Z., Yamada, K., Inazu, T., Kawata, H., Hirano, S., Mizutani, T., Yazawa, T., Sekiguchi, T., Yoshino, M., Kajitani, T., Okada, K. and Miyamoto, K. 2003. Genomic structure and analysis of transcriptional regulation of the mouse zinc-fingers and homeoboxes 1 (ZHX1) gene. *Gene* 302: 83-94.
5. Kawata, H., Yamada, K., Shou, Z., Mizutani, T. and Miyamoto, K. 2003. The mouse zinc-fingers and homeoboxes (ZHX) family; ZHX2 forms a heterodimer with ZHX3. *Gene* 323: 133-140.
6. Yamada, K., Kawata, H., Shou, Z., Hirano, S., Mizutani, T., Yazawa, T., Sekiguchi, T., Yoshino, M., Kajitani, T. and Miyamoto, K. 2003. Analysis of zinc-fingers and homeoboxes (ZHX)-1-interacting proteins: molecular cloning and characterization of a member of the ZHX family, ZHX3. *Biochem. J.* 373: 167-178.
7. Kawata, H., Yamada, K., Shou, Z., Mizutani, T., Yazawa, T., Yoshino, M., Sekiguchi, T., Kajitani, T. and Miyamoto, K. 2003. Zinc-fingers and homeoboxes (ZHX) 2, a novel member of the ZHX family, functions as a transcriptional repressor. *Biochem. J.* 373: 747-757.
8. Lv, Z., Zhang, M., Bi, J., Xu, F., Hu, S. and Wen, J. 2006. Promoter hypermethylation of a novel gene, ZHX2, in hepatocellular carcinoma. *Am. J. Clin. Pathol.* 125: 740-746.

## CHROMOSOMAL LOCATION

Genetic locus: ZHX1 (human) mapping to 8q24.13; Zhx1 (mouse) mapping to 15 D1.

## RESEARCH USE

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

## SOURCE

ZHX1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ZHX1 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, Ready P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ZHX1 (N-20) is recommended for detection of ZHX1 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).

ZHX1 (N-20) is also recommended for detection of ZHX1 in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for ZHX1 siRNA (h): sc-61827, ZHX1 siRNA (m): sc-61828, ZHX1 shRNA Plasmid (h): sc-61827-SH, ZHX1 shRNA Plasmid (m): sc-61828-SH, ZHX1 shRNA (h) Lentiviral Particles: sc-61827-V and ZHX1 shRNA (m) Lentiviral Particles: sc-61828-V.

Molecular Weight (predicted) of ZHX1: 98 kDa.

Molecular Weight (observed) of ZHX1: 135 kDa.

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