

Barx1 (392.8): sc-81956

BACKGROUND

The BAR homeobox (Barx) family of proteins comprise Barx1 and Barx2. These proteins are regulators of place-dependent morphogenesis and play important roles in controlling the expression patterns of cell adhesion molecules. Barx1, a 226 amino acid nuclear protein, is expressed primarily in testis, heart and craniofacial tissue. Barx1 is a homeodomain transcription factor important in odontogenesis, craniofacial development and stomach organogenesis. Barx1 controls mesenchymal cell expression of two secreted Wnt antagonists, sFRP-1 and sFRP2, proteins that are important in the development of the gastric endoderm which occurs before the epithelial differentiation. During early stages of molar development, Barx1 directs the undetermined ectomesenchymal cells in the proximal region of the jaws to follow the pathway of multicuspoid tooth development. Fibroblast growth factor-8 (FGF8) stimulates Barx1 expression, while bone morphogenetic protein-4 (BMP4) inhibits Barx1 expression.

REFERENCES

1. Tissier-Seta, J.P., et al. 1995. Barx1, a new mouse ectomesenchyme and the stomach. *Mech. Dev.* 51: 3-15.
2. Mitsiadis, T.A., et al. 1998. Expression of the transcription factors Otlx2, Barx1 and Sox9 during mouse odontogenesis. *Eur. J. Oral Sci.* 106: 112-116.
3. Gould, D.B. and Walter, M.A. 2000. Cloning, characterization, localization, and mutational screening of the human Barx1 gene. *Genomics* 68: 336-342.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603260. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Gould, D.B. and Walter, M.A. 2004. Mutational analysis of Barhl1 and Barx1 in three new patients with Joubert syndrome. *Am. J. Med. Genet.* 131: 205-208.
6. Sander, G.R. and Powell, B.C. 2004. Expression of the homeobox gene Barx2 in the gut. *J. Histochem. Cytochem.* 52: 541-544.
7. Kim, B.M., et al. 2005. The stomach mesenchymal transcription factor Barx1 specifies gastric epithelial identity through inhibition of transient Wnt signaling. *Dev. Cell* 8: 611-622.

CHROMOSOMAL LOCATION

Genetic locus: BARX1 (human) mapping to 9q22.32; Barx1 (mouse) mapping to 13 A5.

SOURCE

Barx1 (392.8) is a mouse monoclonal antibody raised against recombinant Barx1 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Barx1 (392.8) is recommended for detection of Barx1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Suitable for use as control antibody for Barx1 siRNA (h): sc-60247, Barx1 siRNA (m): sc-60248, Barx1 shRNA Plasmid (h): sc-60247-SH, Barx1 shRNA Plasmid (m): sc-60248-SH, Barx1 shRNA (h) Lentiviral Particles: sc-60247-V and Barx1 shRNA (m) Lentiviral Particles: sc-60248-V.

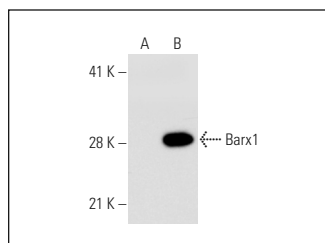
Molecular Weight of Barx1: 24 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, MIA PaCa-2 cell lysate: sc-2285 or Barx1 (h): 293T Lysate: sc-116949.

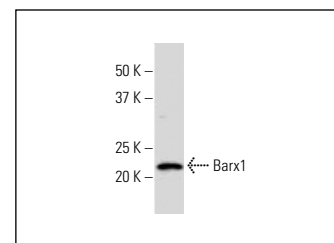
RECOMMENDED SUPPORT REAGENTS

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



Barx1 (392.8): sc-81956. Western blot analysis of Barx1 expression in non-transfected: sc-117752 (A) and human Barx1 transfected: sc-116949 (B) 293T whole cell lysates.



Barx1 (392.8): sc-81956. Western blot analysis of Barx1 expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Wang, G., et al. 2017. Loss of Barx1 promotes hepatocellular carcinoma metastasis through up-regulating MGAT5 and MMP9 expression and indicates poor prognosis. *Oncotarget* 8: 71867-71880.
2. Macrin, D., et al. 2019. Metabolism as an early predictor of DPSCs aging. *Sci. Rep.* 9: 2195.

STORAGE

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