

HoxA1 (N-20): sc-17146

BACKGROUND

Hox genes play a fundamental role in the development of the vertebrate central nervous system, heart, axial skeleton, limbs, gut, urogenital tract and external genitalia. The homeobox gene HoxA1 is transcriptionally regulated by retinoic acid (RA) and encodes a transcription factor which has been shown to play important roles in cell differentiation and embryogenesis. HoxA1 is also expressed in cancers, such as mammary tumors, though it is not expressed in normal gland or in precancerous mammary tissues. At embryonic stages, HoxA2 is expressed in the tips of the growing palatal shelves of the mesenchyme and epithelial cells of the palate. HoxA2 protein is predominantly expressed in the nuclei of cells in the ventral mantle region of the developing embryo. In the developing and adult mouse spinal cord, HoxA2 protein may contribute to dorsal-ventral patterning and/or to the specification of neuronal phenotype. HoxA7, expressed in the fetal liver, lung, skeletal muscle, kidney, pancreas and placenta, functions as a potent transcriptional repressor.

CHROMOSOMAL LOCATION

Genetic locus: HOXA1 (human) mapping to 7p15.2; Hoxa1 (mouse) mapping to 6 B3.

SOURCE

HoxA1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HoxA1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-17146 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-17146 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HoxA1 (N-20) is recommended for detection of HoxA1 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), 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). HoxA1 (N-20) is also recommended for detection of HoxA1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HoxA1 siRNA (h): sc-35583, HoxA1 siRNA (m): sc-35584, HoxA1 shRNA Plasmid (h): sc-35583-SH, HoxA1 shRNA Plasmid (m): sc-35584-SH, HoxA1 shRNA (h) Lentiviral Particles: sc-35583-V and HoxA1 shRNA (m) Lentiviral Particles: sc-35584-V.

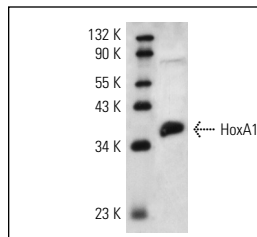
HoxA1 (N-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HoxA1: 37 kDa.

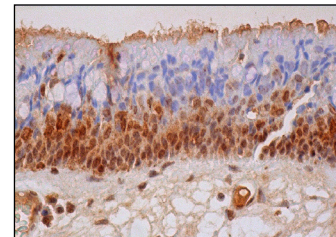
STORAGE

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

DATA



HoxA1 (N-20): sc-17146. Western blot analysis of HoxA1 expression in 3611-RF whole cell lysate.



HoxA1 (N-20): sc-17146. Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing nuclear and cytoplasmic staining of respiratory epithelial cells.

SELECT PRODUCT CITATIONS

1. Zhang, X., et al. 2003. Human growth hormone-regulated HoxA1 is a human mammary epithelial oncogene. *J. Biol. Chem.* 278: 7580-7590.
2. Kömüves, L.G. and Largman, C. 2005. Analysis of HOX homeodomain proteins and gene transcripts in the epidermis. *Methods Mol. Biol.* 289: 157-170.
3. Paraguisson, R.C., et al. 2007. Enhanced autophagic cell death in expanded polyhistidine variants of HOXA1 reduces PBX1-coupled transcriptional activity and inhibits neuronal differentiation. *J. Neurosci. Res.* 85: 479-487.
4. Wang, L.L., et al. 2009. Ethanol exposure induces differential microRNA and target gene expression and teratogenic effects which can be suppressed by folic acid supplementation. *Hum. Reprod.* 24: 562-579.
5. Mayshar, Y., et al. 2011. Teratogen screening using transcriptome profiling of differentiating human embryonic stem cells. *J. Cell. Mol. Med.* 15: 1393-1401.
6. Ferretti, E., et al. 2011. A conserved Pbx-Wnt-p63-Irf6 regulatory module controls face morphogenesis by promoting epithelial apoptosis. *Dev. Cell* 21: 627-641.
7. Vitobello, A., et al. 2011. Hox and Pbx factors control retinoic acid synthesis during hindbrain segmentation. *Dev. Cell* 20: 469-482.

RESEARCH USE

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

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Try **HoxA1 (1E10): sc-293257**, our highly recommended monoclonal alternative to HoxA1 (N-20).