

# HoxD1 (L-20): sc-19498

## BACKGROUND

The Hox (homeobox) genes play an important role in the development and design of anterior-posterior body axes in animals. Although Hox proteins can bind to DNA as monomers, dimerization with PBX homeoproteins can significantly increase the DNA binding activity of these transcription factors. The HoxD9 gene is involved in the development and patterning of the forelimb and axial skeleton. Transcriptional activation of HoxD9 has been shown to be enhanced by HMG1 (high mobility group protein 1) and antagonized by HoxD8, suggesting that Hox protein function depends on both DNA-protein and protein-protein interactions. The HOX genes are known to regulate a number of cell adhesion molecules (CAMs), with HoxD9 specifically increasing levels of L-CAM transcripts. In presomitic mesoderm, HoxD1 displays dynamic stripes of expression. In the three stages of diencephalon development, HoxD1 is strongly expressed in the first two stages and downregulated in the third stage.

## REFERENCES

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2. Zappavigna, V., et al. 1994. Specificity of Hox protein function depends on DNA-protein and protein-protein interactions, both mediated by the homeo domain. *Genes Dev.* 8: 732-744.
3. Fromental-Ramain, C., et al. 1996. Specific and redundant functions of the paralogous HoxA9 and HoxD9 genes in forelimb and axial skeleton patterning. *Development* 122: 461-472.
4. Zappavigna, V., et al. 1996. HMG1 interacts with Hox proteins and enhances their DNA binding and transcriptional activation. *EMBO J.* 15: 4981-4991.
5. Phelan, M.L., et al. 1997. Distinct Hox N-terminal arm residues are responsible for specificity of DNA recognition by Hox monomers and Hox.PBX heterodimers. *J. Biol. Chem.* 272: 8635-8643.
6. Gellon, G., et al. 1998. Shaping animal body plans in development and evolution by modulation of Hox expression patterns. *Bioessays* 20: 116-122.
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## CHROMOSOMAL LOCATION

Genetic locus: HOXD1 (human) mapping to 2q31.1; Hoxd1 (mouse) mapping to 2 C3.

## SOURCE

HoxD1 (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HoxD1 of human origin.

## STORAGE

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

## 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-19498 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-19498 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

HoxD1 (L-20) is recommended for detection of HoxD1 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).

HoxD1 (L-20) is also recommended for detection of HoxD1 in additional species, including bovine and porcine.

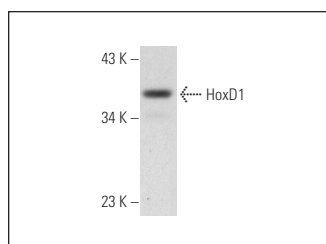
Suitable for use as control antibody for HoxD1 siRNA (h): sc-38696, HoxD1 siRNA (m): sc-38697, HoxD1 shRNA Plasmid (h): sc-38696-SH, HoxD1 shRNA Plasmid (m): sc-38697-SH, HoxD1 shRNA (h) Lentiviral Particles: sc-38696-V and HoxD1 shRNA (m) Lentiviral Particles: sc-38697-V.

HoxD1 (L-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HoxD1: 41 kDa.

Positive Controls: ECV304 cell lysate: sc-2269, HeLa nuclear extract: sc-2120 or Caki-1 cell lysate: sc-2224.

## DATA



HoxD1 (L-20): sc-19498. Western blot analysis of HoxD1 expression in ECV304 whole cell lysate.

## RESEARCH USE

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

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Try **HoxD1 (H-6): sc-365853**, our highly recommended monoclonal alternative to HoxD1 (L-20).