

# HoxD3 (A-12): sc-22385

## 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. HoxD3, a homeobox transcription factor that promotes angiogenesis and collagen synthesis, is up-regulated during normal wound repair and may provide a means to directly improve collagen deposition, angiogenesis and closure in poorly healing wounds in diabetics. One study found that six of seven observed melanoma cell lines expressed the HoxD3 gene, whereas normal melanocytes did not. When overexpressed, HoxD3 upregulates Integrin  $\beta 3$  expression in human erythroleukemia HEL cells and lung cancer A549 cells and enhances their motility and invasiveness. HoxD3 may also enhance the invasive and metastatic potential of cancer cells through TGF $\beta$ -dependent and independent pathways.

## REFERENCES

- 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.
- Gellon, G., et al. 1998. Shaping animal body plans in development and evolution by modulation of Hox expression patterns. *Bioessays* 20: 116-122.
- Okubo, Y., et al. 2002. Transduction of HoxD3-antisense into human melanoma cells results in decreased invasive and motile activities. *Clin. Exp. Metastasis*. 19: 503-511.
- Miyazaki, Y.J., et al. 2002. HoxD3 enhances motility and invasiveness through the TGF $\beta$ -dependent and -independent pathways in A549 cells. *Oncogene* 21: 798-808.
- Hansen, S.L., et al. 2003. HoxD3 accelerates wound healing in diabetic mice. *Am. J. Pathol.* 163: 2421-2431.

## CHROMOSOMAL LOCATION

Genetic locus: HOXD3 (human) mapping to 2q31; Hoxd3 (mouse) mapping to 2 C2.

## SOURCE

HoxD3 (A-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HoxD3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22385 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-22385 X, 200  $\mu$ g/0.1 ml.

## RESEARCH USE

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

## APPLICATIONS

HoxD3 (A-12) is recommended for detection of HoxD3 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).

Suitable for use as control antibody for HoxD3 siRNA (h): sc-38698 and HoxD3 siRNA (m): sc-38699.

HoxD3 (A-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Positive Controls: A549 cell lysate: sc-2413.

## 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> 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.