

# HoxA13 (A-12): sc-46121

## BACKGROUND

The Hox proteins play a role in development and cellular differentiation by regulating downstream target genes. Specifically, the Hox proteins direct DNA-protein and protein-protein interactions that assist in determining the morphologic features associated with the anterior-posterior body axis. HoxA13 and HoxD13 also bind to other BMP and TGF $\beta$ /Activin-regulated Smad proteins including Smad1 and Smad2, but not Smad4. In humans and mice, loss of HoxA13 function causes defects in the growth and patterning of the digits and interdigital tissues. Analysis of HoxA13 expression reveals a pattern of localization overlapping with sites of reduced Bmp2 and Bmp7 expression in HoxA13 mutant limbs. HoxA13 regulates Bmp2 and Bmp7 expression, providing a link between HoxA13, its target genes and the specific developmental processes affected by loss of HoxA13 function.

## REFERENCES

1. Knosp, W.M., et al. 2004. HoxA13 regulates the expression of bone morphogenetic proteins 2 and 7 to control distal limb morphogenesis. *Development* 131: 4581-4592.
2. Archontis, G., et al. 2005. Glycogen phosphorylase inhibitors: a free energy perturbation analysis of glucopyranose spirohydantoin analogues. *Proteins* 61: 984-998.
3. Grier, D.G., et al. 2005. The pathophysiology of HOX genes and their role in cancer. *J. Pathol.* 205: 154-171.
4. Williams, T.M., et al. 2005. Candidate downstream regulated genes of HOX group 13 transcription factors with and without monomeric DNA binding capability. *Dev. Biol.* 279: 462-480.
5. Williams, T.M., et al. 2005. Group 13 Hox proteins interact with the MH2 domain of R-Smads and modulate Smad transcriptional activation functions independent of Hox DNA-binding capability. *Nucleic. Acids. Res.* 33: 4475-4484.
6. Williams, T.M., et al. 2005. Range of Hox/TALE superclass associations and protein domain requirements for HoxA13:Meis interaction. *Dev. Biol.* 277: 457-471.

## CHROMOSOMAL LOCATION

Genetic locus: HOXA13 (human) mapping to 7p15.2; Hoxa13 (mouse) mapping to 6 B3.

## SOURCE

HoxA13 (A-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HoxA13 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-46121 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-46121 X, 200  $\mu$ g/0.1 ml.

## APPLICATIONS

HoxA13 (A-12) is recommended for detection of HoxA13 of mouse 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).

HoxA13 (A-12) is also recommended for detection of HoxA13 in additional species, including porcine.

Suitable for use as control antibody for HoxA13 siRNA (h): sc-45666, HoxA13 siRNA (m): sc-45667, HoxA13 shRNA Plasmid (h): sc-45666-SH, HoxA13 shRNA Plasmid (m): sc-45667-SH, HoxA13 shRNA (h) Lentiviral Particles: sc-45666-V and HoxA13 shRNA (m) Lentiviral Particles: sc-45667-V.

HoxA13 (A-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of HoxA13: 40 kDa.

Molecular Weight (observed) of HoxA13: 48 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<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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.