

# HoxA4 (N-19): sc-82889

## BACKGROUND

The Hox homeobox genes encode proteins that are transcriptional regulators with an established role in embryonic development. HoxA4 (homeobox A4), also known as HOX1D or HOX1, is a 320 amino acid protein that localizes to the nucleus and contains one homeobox DNA-binding domain. Expressed in the embryonic nervous system, HoxA4 functions as a sequence-specific DNA-binding transcription factor that is part of a regulatory mechanism that provides cells with positional identities during development. Via its ability to bind DNA, HoxA4 plays an important role in the regulation of gene expression, as well as morphogenesis and differentiation. The gene encoding HoxA4 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

## REFERENCES

- Boncinelli, E., Acampora, D., Pannese, M., D'Esposito, M., Somma, R., Gaudino, G., Stornaiuolo, A., Cafiero, M., Faiella, A. and Simeone, A. 1989. Organization of human class I homeobox genes. *Genome* 31: 745-756.
- Ferguson-Smith, A.C., Fienberg, A. and Ruddle, F.H. 1989. Isolation, chromosomal localization, and nucleotide sequence of the human Hox 1.4 homeobox. *Genomics* 5: 250-258.
- Peverali, F.A., D'Esposito, M., Acampora, D., Bunone, G., Negri, M., Faiella, A., Stornaiuolo, A., Pannese, M., Migliaccio, E. and Simeone, A. 1990. Expression of Hox homeogenes in human neuroblastoma cell culture lines. *Differentiation* 45: 61-69.
- Buettner, R., Yim, S.O., Hong, Y.S., Boncinelli, E. and Tainsky, M.A. 1991. Alteration of homeobox gene expression by N-Ras transformation of PA-1 human teratocarcinoma cells. *Mol. Cell. Biol.* 11: 3573-3583.
- Stelnicki, E.J., Kömüves, L.G., Kwong, A.O., Holmes, D., Klein, P., Rozenfeld, S., Lawrence, H.J., Adzick, N.S., Harrison, M. and Largman, C. 1998. Hox homeobox genes exhibit spatial and temporal changes in expression during human skin development. *J. Invest. Dermatol.* 110: 110-115.
- Kosaki, K., Kosaki, R., Suzuki, T., Yoshihashi, H., Takahashi, T., Sasaki, K., Tomita, M., McGinnis, W. and Matsuo, N. 2002. Complete mutation analysis panel of the 39 human Hox genes. *Teratology* 65: 50-62.
- Strathdee, G., Sim, A., Parker, A., Oscier, D. and Brown, R. 2006. Promoter hypermethylation silences expression of the HoxA4 gene and correlates with IgVh mutational status in CLL. *Leukemia* 20: 1326-1329.
- Chen, T., Li, Q., Xu, J., Ding, K., Wang, Y., Wang, W., Li, S. and Shen, Y. 2007. Mutation screening of BMP4, BMP7, HoxA4 and HoxB6 genes in Chinese patients with hypospadias. *Eur. J. Hum. Genet.* 15: 23-28.

## CHROMOSOMAL LOCATION

Genetic locus: HOXA4 (human) mapping to 7p15.2.

## RESEARCH USE

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

## SOURCE

HoxA4 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of HoxA4 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-82889 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-82889 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

HoxA4 (N-19) is recommended for detection of HoxA4 of 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); non cross-reactive with other Hox family members.

Suitable for use as control antibody for HoxA4 siRNA (h): sc-75277, HoxA4 shRNA Plasmid (h): sc-75277-SH and HoxA4 shRNA (h) Lentiviral Particles: sc-75277-V.

HoxA4 (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HoxA4: 34 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™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ 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™ 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.

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Try **HoxA4 (H-4): sc-515418** or **HoxA4 (A-12): sc-398426**, our highly recommended monoclonal alternatives to HoxA4 (N-19).