

# HoxA4 (A-12): sc-398426

## 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

1. Boncinelli, E., et al. 1989. Organization of human class I homeobox genes. *Genome* 31: 745-756.
2. Ferguson-Smith, A.C., et al. 1989. Isolation, chromosomal localization, and nucleotide sequence of the human HOX 1.4 homeobox. *Genomics* 5: 250-258.
3. Peverali, F.A., et al. 1990. Expression of HOX homeogenes in human neuroblastoma cell culture lines. *Differentiation* 45: 61-69.
4. Buettner, R., et al. 1991. Alteration of homeobox gene expression by N-Ras transformation of PA-1 human teratocarcinoma cells. *Mol. Cell. Biol.* 11: 3573-3583.

## CHROMOSOMAL LOCATION

Genetic locus: HOXA4 (human) mapping to 7p15.2; Hoxa4 (mouse) mapping to 6 B3.

## SOURCE

HoxA4 (A-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 95-116 within an internal region of HoxA4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain 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-398426 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-398426 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

HoxA4 (A-12) is recommended for detection of HoxA4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

HoxA4 (A-12) is also recommended for detection of HoxA4 in additional species, including bovine.

Suitable for use as control antibody for HoxA4 siRNA (h): sc-75277, HoxA4 siRNA (m): sc-75278, HoxA4 shRNA Plasmid (h): sc-75277-SH, HoxA4 shRNA Plasmid (m): sc-75278-SH, HoxA4 shRNA (h) Lentiviral Particles: sc-75277-V and HoxA4 shRNA (m) Lentiviral Particles: sc-75278-V.

HoxA4 (A-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HoxA4: 34 kDa.

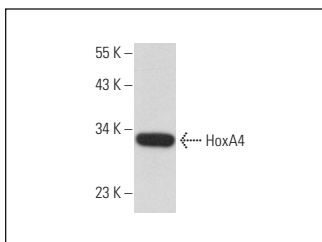
Positive Controls: human skeletal muscle extract: sc-363776 or NIH/3T3 whole cell lysate: sc-2210.

## RECOMMENDED SUPPORT REAGENTS

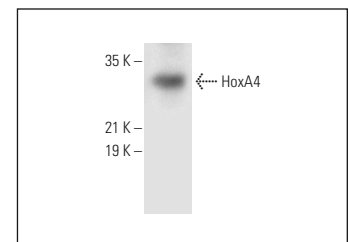
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



HoxA4 (A-12): sc-398426. Western blot analysis of HoxA4 expression in NIH/3T3 whole cell lysate.



HoxA4 (A-12): sc-398426. Western blot analysis of HoxA4 expression in human skeletal muscle tissue extract.

## SELECT PRODUCT CITATIONS

1. Kimura, M., et al. 2020. Homeobox A4 suppresses vascular remodeling by repressing YAP/TEAD transcriptional activity. *EMBO Rep.* 21: e48389.

## RESEARCH USE

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