

# HoxD9 (E-3): sc-137038

## BACKGROUND

The Hox proteins play a role in patterns of embryonic development and cellular differentiation by regulating downstream target genes. *In vivo*, the HoxD9 protein interacts with the autoregulatory and cross-regulatory enhancers of the murine HoxB1 and human HoxD9 genes. Specifically, the HoxD9 protein interacts with the human control region (HCR) of the HoxD9 gene, thus inducing transcription of the HoxD9 promoter. HoxD9 may be a multifunctional transcriptional regulator, as it contains different activation domains. Activation of HoxD9 depends on the structure of the target regulatory element, and results in differential cofactor interaction. The HoxD9 protein is expressed in the early stages of mouse joint development, primarily in the articular cartilage. HoxD9 transcripts are also detected in the synovial tissue of arthritic mice, but not in that of normal mice, suggesting that HoxD9 may have a role in the pathology of arthritis. Furthermore, the HoxD9 protein is highly expressed in the synoviocytes of patients with rheumatoid arthritis (RA), but not in osteoarthritis patients. The human HoxD9 protein is also differentially expressed in the human cervical cancer cell line HeLa, but is not expressed in the normal cervix and may thus play a role in tumorigenesis.

## REFERENCES

1. 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.
2. Vigano, M.A., et al. 1998. Definition of the transcriptional activation domains of three human HOX proteins depends on the DNA-binding context. *Mol. Cell. Biol.* 18: 6201-6212.
3. Khoa, N.D., et al. 1999. Expression of murine HOXD9 during embryonic joint patterning and in human T lymphotropic virus type I tax transgenic mice with arthropathy resembling rheumatoid arthritis. *Arthritis Rheum.* 42: 686-696.
4. Khoa, N.D., et al. 2001. Potential role of HOXD9 in synoviocyte proliferation. *Arthritis Rheum.* 44: 1013-1021.
5. Li, H., et al. 2002. Expression of homeobox genes in cervical cancer. *Gynecol. Oncol.* 84: 216-221.

## CHROMOSOMAL LOCATION

Genetic locus: HOXD9 (human) mapping to 2q31.1; Hoxd9 (mouse) mapping to 2 C3.

## SOURCE

HoxD9 (E-3) is a mouse monoclonal antibody raised against amino acids 1-342 representing full length HoxD9 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-137038 X, 200 µg/0.1 ml.

## RESEARCH USE

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

## APPLICATIONS

HoxD9 (E-3) is recommended for detection of HoxD9 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).

Suitable for use as control antibody for HoxD9 siRNA (h): sc-35585, HoxD9 siRNA (m): sc-35586, HoxD9 shRNA Plasmid (h): sc-35585-SH, HoxD9 shRNA Plasmid (m): sc-35586-SH, HoxD9 shRNA (h) Lentiviral Particles: sc-35585-V and HoxD9 shRNA (m) Lentiviral Particles: sc-35586-V.

HoxD9 (E-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

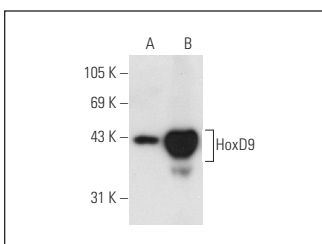
Molecular Weight of HoxD9: 38 kDa.

Positive Controls: HoxD9 (m): 293T Lysate: sc-126973, HoxD9 (h): 293T Lysate: sc-115615 or HeLa whole cell lysate: sc-2200.

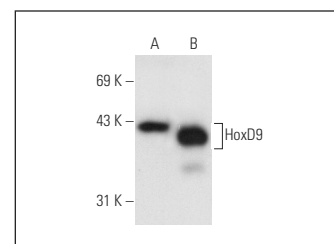
## RECOMMENDED SUPPORT REAGENTS

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



HoxD9 (E-3): sc-137038. Western blot analysis of HoxD9 expression in non-transfected: sc-117752 (A) and human HoxD9 transfected: sc-115615 (B) 293T whole cell lysates.



HoxD9 (E-3): sc-137038. Western blot analysis of HoxD9 expression in non-transfected: sc-117752 (A) and mouse HoxD9 transfected: sc-126973 (B) 293T whole cell lysates.

## 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) for detailed protocols and support products.