

HoxA9 (HOX5I043): sc-81291

BACKGROUND

The Hox homeobox genes encode proteins that play a role in embryonic development. The HoxA9 gene encodes a class I homeodomain protein, which is expressed in normal adult and fetal thymic tissue, and may play a role in regulating early differentiation of thymocytes. The HoxA9 homeodomain protein cooperatively binds consensus DNA sequences with Meis1 and Pbx 1. In addition, the HoxA9 protein, along with the Meis1 and Pbx 1 proteins, have been implicated in leukemic transformation in both mice and humans. Furthermore, overexpression of both HoxA9 and Meis1 in primary bone marrow cells in syngenic mice induced growth factor-dependent acute myeloid leukemia (AML). Chromosomal translocation of t(7;11)(p15;p15) has been demonstrated in patients with human AML and chronic myelogenous leukemia (CML), resulting in the fusion gene Nup98-HoxA9. Mice transplanted with bone marrow cells expressing Nup98-HoxA9 acquire a myeloproliferative disease (MPD) which ultimately degrades to AML.

REFERENCES

1. Nakamura, T., et al. 1996. Fusion of the nucleoporin gene Nup98 to HoxA9 by the chromosome translocation t(7;11)(p15;p15) in human myeloid leukaemia. *Nat. Genet.* 12: 154-158.
2. Izon, D.J., et al. 1998. Loss of function of the homeobox gene HoxA9 perturbs early T cell development and induces apoptosis in primitive thymocytes. *Blood* 92: 383-393.

CHROMOSOMAL LOCATION

Genetic locus: HOXA9 (human) mapping to 7p15.2; Hoxa9 (mouse) mapping to 6 B3.

SOURCE

HoxA9 (HOX5I043) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the C-terminal region of HoxA9 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

HoxA9 (HOX5I043) is recommended for detection of HoxA9 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for HoxA9 siRNA (h): sc-38682, HoxA9 siRNA (m): sc-38683, HoxA9 shRNA Plasmid (h): sc-38682-SH, HoxA9 shRNA Plasmid (m): sc-38683-SH, HoxA9 shRNA (h) Lentiviral Particles: sc-38682-V and HoxA9 shRNA (m) Lentiviral Particles: sc-38683-V.

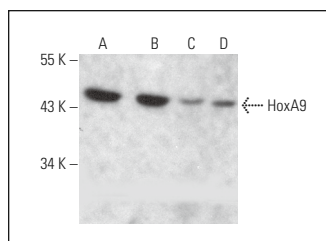
Molecular Weight of HoxA9: 36 kDa.

Positive Controls: SW480 cell lysate: sc-2219, Hep G2 cell lysate: sc-2227 or HoxA9 (h2): 293T Lysate: sc-174099.

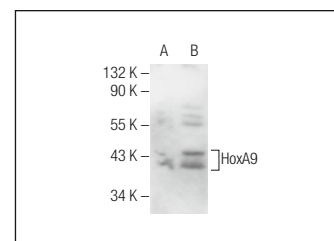
STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

DATA



HoxA9 (HOX5I043): sc-81291. Western blot analysis of HoxA9 expression in Hep G2 (A) and SW480 (B) whole cell lysates and mouse spinal cord (C) and rat spinal cord (D) tissue extracts.



HoxA9 (HOX5I043): sc-81291. Western blot analysis of HoxA9 expression in non-transfected: sc-117752 (A) and human HoxA9 transfected: sc-174099 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Li, Y., et al. 2010. Ratio of miR-196s to HoxC8 messenger RNA correlates with breast cancer cell migration and metastasis. *Cancer Res.* 70: 7894-7904.
2. Liu, Y., et al. 2013. Low expression of miR-196b enhances the expression of Bcr-Abl1 and HoxA9 oncogenes in chronic myeloid leukemogenesis. *PLoS ONE* 8: e68442.
3. Gu, S., et al. 2017. The molecular feature of Hox gene family in the intramedullary spinal tumors. *Spine* 42: 291-297.
4. Xia, Z., et al. 2019. miR-652 promotes proliferation and migration of uveal melanoma cells by targeting HoxA9. *Med. Sci. Monit.* 25: 8722-8732.
5. Chang, K.C., et al. 2020. Stem cell characteristics promote aggressiveness of diffuse large B-cell lymphoma. *Sci. Rep.* 10: 21342.
6. Cai, S., et al. 2020. PRMT5 prevents cardiomyocyte hypertrophy via symmetric dimethylating HoxA9 and repressing HoxA9 expression. *Front. Pharmacol.* 11: 600627.
7. Quan, X.Z., et al. 2021. HoxA9-induced chemerin signals through CMKLR1/AMPK/TXNIP/NLRP3 pathway to induce pyroptosis of trophoblasts and aggravate preeclampsia. *Exp. Cell Res.* 408: 112802.
8. Chen, D., et al. 2021. The circRAB3IP mediated by eIF4A3 and LEF1 contributes to enzalutamide resistance in prostate cancer by targeting miR-133a-3p/miR-133b/SGK1 pathway. *Front. Oncol.* 11: 752573.
9. Zhang, Y., et al. 2021. miR-381-3p attenuates doxorubicin resistance in human anaplastic thyroid carcinoma via targeting homeobox A9. *Int. J. Exp. Pathol.* 102: 209-217.

RESEARCH USE

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