

HoxB5 (133C3a): sc-81099

BACKGROUND

The Hox proteins are a family of transcription factors that 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. Hox proteins are involved in controlling axial patterning, leukemias and hereditary malformations. HoxB5 (homeobox protein Hox-B5), also known as HOX2, HU-1, HOX2A, Hox2.1 or HHO.C10, is a member of the Antp homeobox (Hox) family. It is a 269 amino acid long nuclear protein expressed in the central nervous system. HoxB5 contains one homeobox DNA-binding domain and plays a role in the regulation of lung and gut development, providing cells with positional identities on the anterior-posterior body axis.

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 142960. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Fu, M., et al. 2003. HoxB5 expression is spatially and temporarily regulated in human embryonic gut during neural crest cell colonization and differentiation of enteric neuroblasts. *Dev. Dyn.* 228: 1-10.
4. Wu, Y., et al. 2003. HoxB5 is an upstream transcriptional switch for differentiation of the vascular endothelium from precursor cells. *Mol. Cell. Biol.* 23: 5680-5691.
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6. Korshunov, A., et al. 2003. Gene expression patterns in ependymomas correlate with tumor location, grade, and patient age. *Am. J. Pathol.* 163: 1721-1727.
7. Neben, K., et al. 2005. Distinct gene expression patterns associated with FLT3- and NRAS-activating mutations in acute myeloid leukemia with normal karyotype. *Oncogene* 24: 1580-1588.
8. Lind, G.E., et al. 2006. Novel epigenetically deregulated genes in testicular cancer include homeobox genes and SCGB3A1 (HIN-1). *J. Pathol.* 210: 441-449.
9. Wu, Q., et al. 2007. DNA methylation profiling of ovarian carcinomas and their *in vitro* models identifies HOXA9, HoxB5, SCGB3A, and CRABP1 as novel targets. *Mol. Cancer* 6: 45.

CHROMOSOMAL LOCATION

Genetic locus: HOXB5 (human) mapping to 17q21.32.

SOURCE

HoxB5 (133C3a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of HoxB5 of human origin.

PRODUCT

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

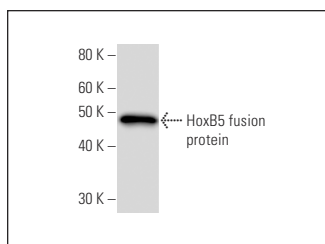
APPLICATIONS

HoxB5 (133C3a) is recommended for detection of HoxB5 of 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 HoxB5 siRNA (h): sc-75279, HoxB5 shRNA Plasmid (h): sc-75279-SH and HoxB5 shRNA (h) Lentiviral Particles: sc-75279-V.

Molecular Weight of HoxB5: 29 kDa.

DATA



HoxB5 (133C3a): sc-81099. Western Blot analysis of human recombinant HoxB5 fusion protein.

SELECT PRODUCT CITATIONS

1. Zhu, J., et al. 2011. HoxB5 cooperates with NKX2-1 in the transcription of human RET. *PLoS ONE* 6: e20815.
2. Kam, M.K., et al. 2014. Homeobox b5 (HoxB5) regulates the expression of forkhead box D3 gene (Foxd3) in neural crest. *Int. J. Biochem. Cell Biol.* 55: 144-152.
3. Lee, J.Y., et al. 2018. Transcriptional activation of EGFR by HoxB5 and its role in breast cancer cell invasion. *Biochem. Biophys. Res. Commun.* 503: 2924-2930.
4. Gao, X., et al. 2018. miR-455-3p serves as prognostic factor and regulates the proliferation and migration of non-small cell lung cancer through targeting HoxB5. *Biochem. Biophys. Res. Commun.* 495: 1074-1080.
5. Tan, X., et al. 2019. MicroRNA-625 inhibits the progression of non-small cell lung cancer by directly targeting HoxB5 and deactivating the Wnt/β-catenin pathway. *Int. J. Mol. Med.* 44: 346-356.

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.