

HoxB7 (747C4a): sc-81292

BACKGROUND

The Hox proteins 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. The mammalian HOX gene complex consists of 39 genes that are located on 4 linkage groups, which are dispersed over 4 chromosomes. A segment of the HoxB7 proximal promoter drives renal expression of reporter genes specifically in the ureteric bud and collecting ducts. Expression levels of HoxB7 are lower in lymph node metastasis-positive cancer tissues than negative cancer tissues. These results suggest that aberrant expression of Hox genes is related to the development of breast cancer and malignant behavior of cancer cells.

REFERENCES

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2. Oxburgh, L., et al. 2004. TGF β superfamily signals are required for morphogenesis of the kidney mesenchyme progenitor population. *Development* 131: 4593-4605.
3. Watanabe, T., et al. 2004. Real-time analysis of ureteric bud branching morphogenesis *in vitro*. *Dev. Biol.* 271: 98-108.
4. Yu, O.H., et al. 2004. Overexpression of Ret leads to vesicoureteric reflux in mice. *Am. J. Physiol. Renal Physiol.* 287: F1123-F1130.
5. Makiyama, K., et al. 2005. Aberrant expression of HOX genes in human invasive breast carcinoma. *Oncol. Rep.* 13: 673-679.
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CHROMOSOMAL LOCATION

Genetic locus: HOXB7 (human) mapping to 17q21.32.

SOURCE

HoxB7 (747C4a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the N-terminal region of HoxB7 of human origin.

PRODUCT

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

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 for detailed protocols and support products.

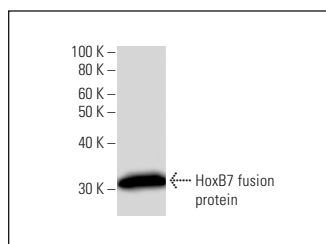
APPLICATIONS

HoxB7 (747C4a) is recommended for detection of HoxB7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for HoxB7 siRNA (h): sc-45835, HoxB7 shRNA Plasmid (h): sc-45835-SH and HoxB7 shRNA (h) Lentiviral Particles: sc-45835-V.

Molecular Weight of HoxB7: 24 kDa.

DATA



HoxB7 (747C4a): sc-81292. Western Blot analysis of human recombinant HoxB7 fusion protein.

SELECT PRODUCT CITATIONS

1. Jin, K., et al. 2012. The HoxB7 protein renders breast cancer cells resistant to tamoxifen through activation of the EGFR pathway. *Proc. Natl. Acad. Sci. USA* 109: 2736-2741.
2. Steens, J., et al. 2017. *In vitro* generation of vascular wall-resident multipotent stem cells of mesenchymal nature from murine induced pluripotent stem cells. *Stem Cell Rep.* 8: 919-932.
3. Wang, W.M., et al. 2017. HoxB7 promotes tumor progression via bFGF-induced activation of MAPK/ERK pathway and indicated poor prognosis in hepatocellular carcinoma. *Oncotarget* 8: 47121-47135.
4. Zhou, T., et al. 2019. HoxB7 mediates cisplatin resistance in esophageal squamous cell carcinoma through involvement of DNA damage repair. *Thorac. Cancer*. E-published.
5. Cai, L., et al. 2020. The let-7c/HoxB7 axis regulates the cell proliferation, migration and apoptosis in hepatocellular carcinoma. *Anticancer Drugs* 31: 6-18.

RESEARCH USE

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