

ALX4 (m): 293T Lysate: sc-126413

BACKGROUND

ALX4 (aristaless-like homeobox 4) is a DNA-binding transcription factor involved in skull and limb development. It is a nuclear protein with expression restricted to bone. Defects in ALX4 are the cause of parietal foramina 2 (PFM2), also known as foramina parietalia permagna. PFM2 is an autosomal dominant disease characterized by oval defects of the parietal bones caused by deficient ossification around the parietal notch, which is normally obliterated during the fifth fetal month. PFM2 is also a clinical feature of Potocki-Shaffer syndrome. BMP induces Msx2 and ALX4 expression in calvarial mesenchyme tissue. Northern blot analysis demonstrates that expression of both the human and mouse ALX4 genes is restricted to bone.

REFERENCES

1. Qu, S., et al. 1999. Physical and genetic interactions between ALX4 and CART 1. *Development* 126: 359-369.
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3. Mavrogiannis, L.A., et al. 2001. Haploinsufficiency of the human homeobox gene ALX4 causes skull ossification defects. *Nat. Genet.* 27: 17-18.
4. Asbreuk, C.H., et al. 2002. Survey for paired-like homeodomain gene expression in the hypothalamus: restricted expression patterns of Rx, ALX4 and goosecoid. *Neuroscience* 114: 883-889.
5. Boras, K., et al. 2002. ALX4 binding to LEF-1 regulates N-CAM promoter activity. *J. Biol. Chem.* 277: 1120-1127.
6. Rice R., et al. 2003. Progression of calvarial bone development requires FOXC1 regulation of Msx2 and ALX4. *Dev. Biol.* 262: 75-87.
7. Antonopoulou I., et al. 2004. ALX4 and Msx2 play phenotypically similar and additive roles in skull vault differentiation. *J. Anat.* 204: 487-499.
8. SWISS-PROT/TrEMBL (Q9H161). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: Alx4 (mouse) mapping to 2 E1

PRODUCT

ALX4 (m): 293T Lysate represents a lysate of mouse ALX4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

ALX4 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ALX4 antibodies. Recommended use: 10-20 µl per lane.

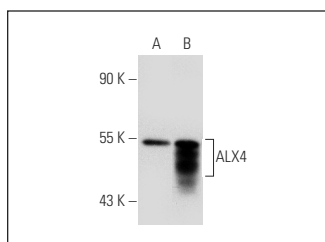
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ALX4 (KAB4): sc-33643 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse ALX4 expression in ALX4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



ALX4 (KAB4): sc-33643. Western blot analysis of ALX4 expression in non-transfected: sc-117752 (A) and mouse ALX4 transfected: sc-126413 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.