

ALX1 (96K): sc-130416

BACKGROUND

ALX homeobox proteins are members of the paired homeobox family which play a role in regulating cell development and pattern formation during embryonic stages. ALX1 (ALX homeobox protein 1), also known as CART-1 (cartilage homeoprotein-1), is a 326 amino acid protein specific to cervix and cartilage tissues. As well as having a homeobox domain, ALX1 also contains an OAR domain, which has been suggested to be important for DNA binding or protein-protein interactions and transactivation. First characterized from a rat chondrosarcoma tumor cell line, ALX1 is a homeobox transcription factor that regulates downstream target genes and has specifically shown to act as a transcriptional repressor for rat prolactin *in vivo*. Homozygous ALX1 deficient mice are born with acrania and meroanencephaly, suggesting ALX1 function in the development of the neural tube. It has also been suggested that ALX1 cooperates with ALX4 in limb development and craniofacial bone formation.

REFERENCES

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- Atkinson, B.L., Ryan, M.E., Benedict, J.J., Huffer, W.E. and Gutierrez-Hartmann, A. 1996. Elucidation of homeoprotein CART-1 function during *in vitro* chondrogenesis of C3H/10T1/2 micromass cultures. *Ann. N.Y. Acad. Sci.* 785: 206-208.
- Gordon, D.F., Wagner, J., Atkinson, B.L., Chiono, M., Berry, R., Sikela, J. and Gutierrez-Hartmann, A. 1996. Human CART-1: structural organization, chromosomal localization, and functional analysis of a cartilage-specific homeodomain cDNA. *DNA Cell Biol.* 15: 531-541.
- Zhao, Q., Behringer, R.R. and de Crombrugge, B. 1996. Prenatal folic acid treatment suppresses acrania and meroanencephaly in mice mutant for the Cart1 homeobox gene. *Nat. Genet.* 13: 275-283.
- Cai, R.L. 1998. Human CART1, a paired-class homeodomain protein, activates transcription through palindromic binding sites. *Biochem. Biophys. Res. Commun.* 250: 305-311.
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CHROMOSOMAL LOCATION

Genetic locus: ALX1 (human) mapping to 12q21.31; Alx1 (mouse) mapping to 10 D1.

SOURCE

ALX1 (96K) is a mouse monoclonal antibody raised against recombinant ALX1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ALX1 (96K) is recommended for detection of ALX1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for ALX1 siRNA (h): sc-96179, ALX1 siRNA (m): sc-141035, ALX1 shRNA Plasmid (h): sc-96179-SH, ALX1 shRNA Plasmid (m): sc-141035-SH, ALX1 shRNA (h) Lentiviral Particles: sc-96179-V and ALX1 shRNA (m) Lentiviral Particles: sc-141035-V.

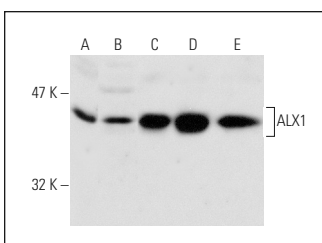
Molecular Weight of ALX1: 37 kDa.

Positive Controls: SW480 nuclear extract: sc-2155, MCF7 nuclear extract: sc-2149 or Hep G2 nuclear extract: sc-364819.

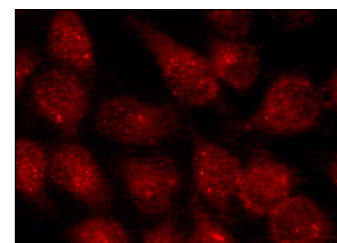
RECOMMENDED SUPPORT REAGENTS

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



ALX1 (96K): sc-130416. Western blot analysis of ALX1 expression in SH-SY5Y (A), SK-BR-3 (B), Hep G2 (C), MCF7 (D) and SW480 (E) nuclear extracts.



ALX1 (96K): sc-130416. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Eze, U.C., Bhaduri, A., Haeussler, M., Nowakowski, T.J. and Kriegstein, A.R. 2021. Single-cell atlas of early human brain development highlights heterogeneity of human neuroepithelial cells and early radial glia. *Nat. Neurosci.* E-published.

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.