SANTA CRUZ BIOTECHNOLOGY, INC.

Pitx2 (h): 293T Lysate: sc-111686

BACKGROUND

Pitx1 and Pitx2 are highly homologous, bicoid-related transcription factors. Pitx1 is a bicoid-related homeodomain factor that exhibits preferential expression in the hindlimb, as well as expression in the developing anterior pituitary gland and first branchial arch. Deletion of the Pitx1 locus results in decreased distal expression of the hindlimb-specific marker, the T-box factor (TBX4). Pitx1 may modulate morphogenesis, growth, and patterning of a specific hindlimb region, and serves as a component of the variables that influence morphological and growth distinctions in forelimb and hindlimb identity. Pitx2 was initially identified as the gene responsible for human Rieger syndrome, an autosomal dominant condition that causes developmental abnormalities. Pitx2 is a transcription factor that regulates cardiac positioning and pituitary and tooth morphogenesis. Pitx2 also regulates lung symmetry by encoding "leftness" of the lung. Pitx2 is asymmetrically expressed in the left lateral-plate mesoderm, and mutant mice with laterality defects show altered patterns of Pitx2 expression that correlate with changes in the visceral symmetry. The genes which encode Pitx1 and Pitx2 map to human chromosomes 5q31 and 4q25, respectively.

REFERENCES

1. Crawford, M.J., Lanctot, C., Tremblay, J.J., Jenkins, N., Gilbert, D., Copeland, N., Beatty, B. and Drouin, J. 1997. Human and murine PTX1/Ptx1 gene maps to the region for Treacher Collins syndrome. Mamm. Genome 8: 841-845.
2. Gage, P.J. and Camper, S.A. 1997. Pituitary homeobox 2, a novel member of the bicoid-related family of homeobox genes, is a potential regulator of anterior structure formation. Hum. Mol. Genet. 6: 457-464.
3. Lin, C., Kioussi, C., O'Connell, S., Briata, P., Szeto, D., Liu, F., Izpisua-Belmonte, J. and Rosenfeld, M. 1999. Pitx2 regulates lung asymmetry, cardiac positioning and pituitary and tooth morphogenesis. Nature 401: 279-282.
4. Kioussi, C., Carriere, C. and Rosenfeld, M. 1999. A model for the development of the hypothalamic-pituitary axis: transcribing the hypophysis. Mech. Dev. 81: 23-35.
5. Hollemann, T. and Pieler, T. 1999. XPitx1: a homeobox gene expressed during pituitary and cement gland formation of *Xenopus* embryos. Mech. Dev. 88: 249-252.
6. Szeto, D., Rodriguez-Esteban, C., Ryan, A., O'Connell, S., Liu, F., Kioussi, C., Gleiberman, A., Izpisua-Belmonte, J. and Rosenfeld, M. 1999. Role of the bicoid-related homeodomain factor Pitx1 in specifying hindlimb morphogenesis and pituitary development. Genes Dev. 13: 484-494.
7. Graham, A. and McGonnell, I. 1999. Limb development: farewell to arms. Curr. Biol. 9: 368-370.

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.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: PITX2 (human) mapping to 4q25.

PRODUCT

Pitx2 (h): 293T Lysate represents a lysate of human Pitx2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Pitx2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Pitx2 antibodies. Recommended use: 10-20 µl per lane.

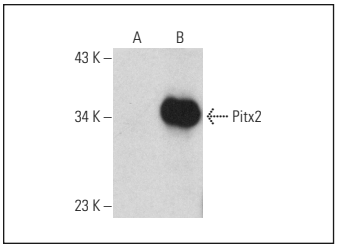
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Pitx2 (H-1): sc-390457 is recommended as a positive control antibody for Western Blot analysis of enhanced human Pitx2 expression in Pitx2 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



Pitx2 (H-1): sc-390457. Western blot analysis of Pitx2 expression in non-transfected: sc-117752 (**A**) and human Pitx2 transfected: sc-111686 (**B**) 293T whole cell lysates.

RESEARCH USE

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