

Pitx1 (K-15): sc-18924

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-q26, respectively.

REFERENCES

1. Crawford, M.J., et al. 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., et al. 1999. Pitx2 regulates lung asymmetry, cardiac positioning and pituitary and tooth morphogenesis. *Nature* 401: 279-282.
4. Kioussi, C., et al. 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. Xpitx-1: a homeobox gene expressed during pituitary and cement gland formation of *Xenopus* embryos. *Mech. Dev.* 88: 249-252.
6. Szeto, D., et al. 1999. Role of the Bicoid-related homeodomain factor Pitx1 in specifying hindlimb morphogenesis and pituitary development. *Genes Dev.* 13: 484-494.
7. Graham, A., et al. 1999. Limb development: Farewell to arms. *Curr. Biol.* 9: 368-370.

CHROMOSOMAL LOCATIONS

Genetic locus: PITX1 (human) mapping to 5q31.1; Pitx1 (mouse) mapping to 13 B1.

SOURCE

Pitx1 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Pitx1 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-18924 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-18924 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Pitx1 (K-15) is recommended for detection of Pitx1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Pitx1 (K-15) is also recommended for detection of Pitx1 in additional species, including bovine.

Suitable for use as control antibody for Pitx1 siRNA (h): sc-44015, Pitx1 siRNA (m): sc-152280, Pitx1 shRNA Plasmid (h): sc-44015-SH, Pitx1 shRNA Plasmid (m): sc-152280-SH, Pitx1 shRNA (h) Lentiviral Particles: sc-44015-V and Pitx1 shRNA (m) Lentiviral Particles: sc-152280-V.

Pitx1 (K-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Pitx1: 39 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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


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Try **Pitx1 (G-4): sc-271435**, our highly recommended monoclonal alternative to Pitx1 (K-15).