SANTA CRUZ BIOTECHNOLOGY, INC.

Pitx2 (H-1): sc-390457

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 5q31.1 and 4q25, 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.

CHROMOSOMAL LOCATION

Genetic locus: PITX2 (human) mapping to 4q25; Pitx2 (mouse) mapping to 3 G3.

SOURCE

Pitx2 (H-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 246-262 near the C-terminus of Pitx2B of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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-390457 X, 200 µg/0.1 ml.

Pitx2 (H-1) is available conjugated to agarose (sc-390457 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390457 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390457 PE), fluorescein (sc-390457 FITC), Alexa Fluor® 488 (sc-390457 AF488), Alexa Fluor® 546 (sc-390457 AF546), Alexa Fluor® 594 (sc-390457 AF594) or Alexa Fluor® 647 (sc-390457 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390457 AF680) or Alexa Fluor® 790 (sc-390457 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390457 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Pitx2 (H-1) is recommended for detection of Pitx2A, Pitx2B and Pitx2C of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

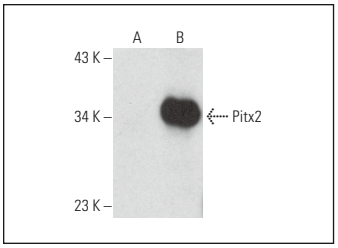
Suitable for use as control antibody for Pitx2 siRNA (h): sc-44016, Pitx2 siRNA (m): sc-152281, Pitx2 shRNA Plasmid (h): sc-44016-SH, Pitx2 shRNA Plasmid (m): sc-152281-SH, Pitx2 shRNA (h) Lentiviral Particles: sc-44016-V and Pitx2 shRNA (m) Lentiviral Particles: sc-152281-V.

Pitx2 (H-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

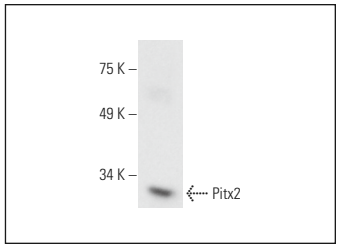
Molecular Weight of Pitx2: 32 kDa.

Positive Controls: Y79 nuclear extract: sc-2126 or Pitx2 (h): 293T Lysate: sc-111686.

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.



Pitx2 (H-1): sc-390457. Western blot analysis of Pitx2 expression in Y79 nuclear extract.

SELECT PRODUCT CITATIONS

1. Zhang, J., et al. 2020. Successful culture of human transition zone cells. Clin. Experiment. Ophthalmol. 48: 689-700.
2. Sun, Y., et al. 2021. LINC02381 contributes to cell proliferation and hinders cell apoptosis in glioma by transcriptionally enhancing CBX5. Brain Res. Bull. 176: 121-129.
3. Rahimov, F., et al. 2024. High incidence and geographic distribution of cleft palate in Finland are associated with the IRF6 gene. Nat. Commun. 15: 9568.

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.