SANTA CRUZ BIOTECHNOLOGY, INC.

IRX2 (G-17): sc-22586

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The Power to Question

BACKGROUND

The Iroquois homeobox gene family of transcription factors regulate aspects of embryonic development including anterior/posterior and dorsal/ventral axis patterning in the central nervous system. The Iroquois family are clustered on two loci, IRXA and IRXB, which map to chromosomes 8 and 13 in mice. The IRXA group includes Irx1, Irx2 and Irx4; the IRXB group is comprises Irx3, Irx5 and Irx6. Irx1 and Irx2 are both widely expressed during development in the lung epithelium and also in the ventricular septum. Irx1 and Irx2 also play a role in digit formation (E11.5-E14.5). The Irx gene family members are each expressed in a distinct pattern during mouse heart development. Specifically, Irx1 and Irx2 are expressed in the ventricular septum and Irx3 is expressed in the ventricular trabeculated myocardium. In addition, Irx4 is expressed in the linear heart tube and the AV canal; Irx5 is expressed in the endocardium lining the ventricular and atrial myocardium. Furthermore, the IRX4 gene may modulate cardiac development and function. Although the heart of Irx4^{-} mice appears to develop normally, adult Irx4^{-} mice exhibit cardiomyopathy, including cardiac hypertrophy and decreased contractility.

REFERENCES

1. Christoffels, V.M., et al. 2000. Patterning the embryonic heart: identification of five mouse Iroquois homeobox genes in the developing heart. Dev. Biol. 224: 263-274.
2. Bruneau, B.G., et al. 2001. Cardiomyopathy in Irx4-deficient mice is preceded by abnormal ventricular gene expression. Mol. Cell. Biol. 21: 1730-1736.
3. Mummenhoff, J., et al. 2001. Expression of Irx6 during mouse morphogenesis. Mech. Dev. 103: 193-195.
4. Ogura, K., et al. 2001. Cloning and chromosome mapping of human and chicken Iroquois (IRX) genes. Cytogenet. Cell Genet. 92: 320-325.
5. Becker, M.B., et al. 2001. Irx1 and Irx2 expression in early lung development. Mech. Dev. 106: 155-158.
6. Zulch, A., et al. 2001. Expression pattern of Irx1 and Irx2 during mouse digit development. Mech. Dev. 106: 159-162.
7. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606197. World Wide Web URL: http://www.ncbi. nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Irx2 (mouse) mapping to 13 C1.

SOURCE

IRX2 (G-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of IRX2 of mouse origin.

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.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22586 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-22586 X, 200 µg/0.1 ml.

APPLICATIONS

IRX2 (G-17) is recommended for detection of IRX2 of mouse and rat 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).

Suitable for use as control antibody for IRX2 siRNA (m): sc-38707, IRX2 shRNA Plasmid (m): sc-38707-SH and IRX2 shRNA (m) Lentiviral Particles: sc-38707-V.

IRX2 (G-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of IRX2: 49 kDa.

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.

SELECT PRODUCT CITATIONS

1. Doi, T., et al. 2011. Expression of Iroquois genes is up-regulated during early lung development in the nitrofen-induced pulmonary hypoplasia. J. Pediatr. Surg. 46: 62-66.

PROTOCOLS

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