

## IRX1 (M-13): sc-22578

### 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 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*<sup>-</sup> mice appears to develop normally, adult *Irx4*<sup>-</sup> mice exhibit cardiomyopathy, including cardiac hypertrophy and decreased contractility.

### REFERENCES

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

### CHROMOSOMAL LOCATION

Genetic locus: IRX1 (human) mapping to 5p15.33; *Irx1* (mouse) mapping to 13 C1.

### SOURCE

IRX1 (M-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IRX1 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.

### 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-22578 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-22578 X, 200 µg/0.1 ml.

### APPLICATIONS

IRX1 (M-13) is recommended for detection of IRX1 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).

Suitable for use as control antibody for IRX1 siRNA (h): sc-106881, IRX1 siRNA (m): sc-38702, IRX1 shRNA Plasmid (h): sc-106881-SH, IRX1 shRNA Plasmid (m): sc-38702-SH, IRX1 shRNA (h) Lentiviral Particles: sc-106881-V and IRX1 shRNA (m) Lentiviral Particles: sc-38702-V.

IRX1 (M-13) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of IRX1: 50 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

- 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.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.