

IRX4 (N-16): sc-22582

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*^{-/-} mice appears to develop normally, adult *Irx4*^{-/-} 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.
- Ogura, K., et al. 2001. Cloning and chromosome mapping of human and chicken Iroquois (IRX) genes. *Cytogenet. Cell Genet.* 92: 320-325.
- Mummenhoff, J., et al. 2001. Expression of *Irx6* during mouse morphogenesis. *Mech. Dev.* 103: 193-195.
- 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.
- Becker, M.B., et al. 2001. *Irx1* and *Irx2* expression in early lung development. *Mech. Dev.* 106: 155-158.
- 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: IRX4 (human) mapping to 5p15.33; *Irx4* (mouse) mapping to 13 C1.

SOURCE

IRX4 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of IRX4 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.

Blocking peptide available for competition studies, sc-22582 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-22582 X, 200 µg/0.1 ml.

APPLICATIONS

IRX4 (N-16) is recommended for detection of IRX4 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).

IRX4 (N-16) is also recommended for detection of IRX4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for IRX4 siRNA (h): sc-38705, IRX4 siRNA (m): sc-38706, IRX4 shRNA Plasmid (h): sc-38705-SH, IRX4 shRNA Plasmid (m): sc-38706-SH, IRX4 shRNA (h) Lentiviral Particles: sc-38705-V and IRX4 shRNA (m) Lentiviral Particles: sc-38706-V.

IRX4 (N-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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.