

IRX3 (G-6): sc-166877

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 IRX, 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.
- Mummenhoff, J., et al. 2001. Expression of IRX6 during mouse morphogenesis. *Mech. Dev.* 103: 193-195.

CHROMOSOMAL LOCATION

Genetic locus: IRX3 (human) mapping to 16q12.2; Irx3 (mouse) mapping to 8 C5.

SOURCE

IRX3 (G-6) is a mouse monoclonal antibody raised against amino acids 361-507 mapping at the C-terminus of IRX3 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-166877 X, 200 µg/0.1 ml.

IRX3 (G-6) is available conjugated to agarose (sc-166877 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166877 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166877 PE), fluorescein (sc-166877 FITC), Alexa Fluor® 488 (sc-166877 AF488), Alexa Fluor® 546 (sc-166877 AF546), Alexa Fluor® 594 (sc-166877 AF594) or Alexa Fluor® 647 (sc-166877 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166877 AF680) or Alexa Fluor® 790 (sc-166877 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

IRX3 (G-6) is recommended for detection of IRX3 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 IRX3 siRNA (h): sc-106756, IRX3 siRNA (m): sc-38704, IRX3 shRNA Plasmid (h): sc-106756-SH, IRX3 shRNA Plasmid (m): sc-38704-SH, IRX3 shRNA (h) Lentiviral Particles: sc-106756-V and IRX3 shRNA (m) Lentiviral Particles: sc-38704-V.

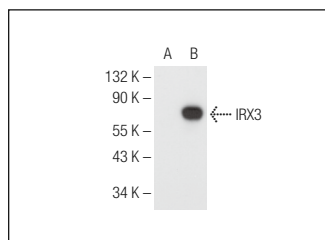
IRX3 (G-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of IRX3: 52 kDa.

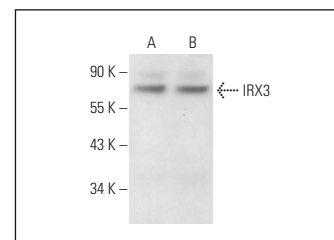
Molecular Weight (observed) of IRX3: 61 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, IRX3 (h): 293T Lysate: sc-173075 or HeLa whole cell lysate: sc-2200.

DATA



IRX3 (G-6): sc-166877. Western blot analysis of IRX3 expression in non-transfected: sc-117752 (A) and human IRX3 transfected: sc-173075 (B) 293T whole cell lysates.



IRX3 (G-6): sc-166877. Western blot analysis of IRX3 expression in HeLa (A) and SJRH30 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Zhu, X., et al. 2020. CRISPR/Cas9-mediated biallelic knockout of IRX3 reduces the production and survival of somatic cell-cloned Bama minipigs. *Animals* 10: 501.
- Tao, H., et al. 2020. IRX3/5 regulate mitotic chromatid segregation and limb bud shape. *Development* 147: dev180042.
- Canac, R., et al. 2022. Deciphering transcriptional networks during human cardiac development. *Cells* 11: 3915.

RESEARCH USE

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

PROTOCOLS

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