

IRX5 (IRX5C10G5): sc-81102

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. The IRXA group includes IRX, IRX2 and IRX4; the IRXB group comprises IRX3, IRX5 and IRX6. 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.
- Becker, M.B., et al. 2001. IRX1 and IRX2 expression in early lung development. *Mech. Dev.* 106: 155-158.
- Bruneau, B.G., et al. 2001. Cardiomyopathy in IRX4-deficient mice is preceded by abnormal ventricular gene expression. *Mol. Cell. Biol.* 21: 1730-1736.
- Mummenhoff, J., et al. 2001. Expression of IRX6 during mouse morphogenesis. *Mech. Dev.* 103: 193-195.
- Ogura, K., et al. 2001. Cloning and chromosome mapping of human and chicken Iroquois (IRX) genes. *Cytogenet. Cell Genet.* 92: 320-325.
- Zulch, A., et al. 2001. Expression pattern of IRX1 and IRX2 during mouse digit development. *Mech. Dev.* 106: 159-162.
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- Cheng, C.W., et al. 2005. The Iroquois homeobox gene, *Irx5*, is required for retinal cone bipolar cell development. *Dev. Biol.* 287: 48-60.

CHROMOSOMAL LOCATION

Genetic locus: IRX5 (human) mapping to 16q12.2; *Irx5* (mouse) mapping to 8 C5.

SOURCE

IRX5 (IRX5C10G5) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the C-terminus of IRX5 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

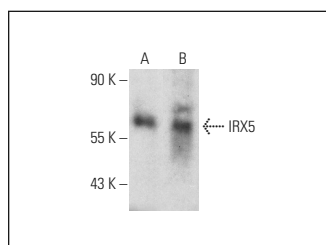
IRX5 (IRX5C10G5) is recommended for detection of IRX5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for IRX5 siRNA (h): sc-93469, IRX5 siRNA (m): sc-146290, IRX5 shRNA Plasmid (h): sc-93469-SH, IRX5 shRNA Plasmid (m): sc-146290-SH, IRX5 shRNA (h) Lentiviral Particles: sc-93469-V and IRX5 shRNA (m) Lentiviral Particles: sc-146290-V.

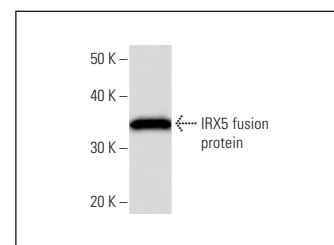
Molecular Weight of IRX5: 50 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138 or HeLa nuclear extract: sc-2120.

DATA



IRX5 (IRX5C10G5): sc-81102. Western blot analysis of IRX5 expression in HeLa (A) and NIH/3T3 (B) nuclear extracts.



IRX5 (IRX5C10G5): sc-81102. Western Blot analysis of human recombinant IRX5 fusion protein.

SELECT PRODUCT CITATIONS

- Canac, R., et al. 2021. Generation of three human induced pluripotent stem cell lines with IRX5 knockout and knockin genetic editions using CRISPR-Cas9 system. *Stem Cell Res.* 58: 102627.
- Canac, R., et al. 2022. Deciphering transcriptional networks during human cardiac development. *Cells* 11: 3915.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

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.