Revision 1

Store at -20C

#14961

IRX1 (D5S8Y) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R	Endogenous	50	Rabbit IgG	#P78414	79192

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

IRX1 (D5S8Y) Rabbit mAb recognizes endogenous levels of total IRX1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro466 of human IRX1 protein.

Background

The Iroquois-class homeodomain proteins (IRX1-6) comprise a family of transcription factors, initially identified in a mutagenesis experiment in *Drosophila* designed to identify genes involved in embryonic patterning (1,2). Members of the Iroquois-class protein family contain a three amino acid loop extension (TALE) homeodomain and an IRO sequence motif of unknown function that is unique to this protein family, but which bears similarity to Notch receptor domains involved in protein-protein interactions (3,4). Research studies in various animal models suggest important roles for IRX proteins in early development, including neural patterning, heart field specification, kidney development, and lung development (5-8). Moreover, studies in mice have shown an essential role for IRX proteins in eye development, where they are required for the specification of ommatidia and photoreceptor cells (9).

The human *IRX1* gene has been identified as a candidate tumor suppressor (10) that is hypermethylated in a number of cancer subtypes (11). Research studies in head and neck squamous cell carcinoma cell lines specifically suggest that IRX1 interacts with components of the TGFβ signaling pathway to regulate cell proliferation and differentiation (12).

Background References

1. Dambly-Chaudière, C. and Leyns, L. (1992) *Int J Dev Biol* 36, 85-91.
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3. Cavodeassi, F. et al. (2001) *Development* 128, 2847-55.
4. Lai, E.C. et al. (1998) *Development* 125, 4077-88.
5. Bosse, A. et al. (1997) *Mech Dev* 69, 169-81.
6. Christoffels, V.M. et al. (2000) *Dev Biol* 224, 263-74.
7. Marra, A.N. and Wingert, R.A. (2014) *Cell Dev Biol* 3, 1000131.
8. Becker, M.B. et al. (2001) *Mech Dev* 106, 155-8.
9. Choy, S.W. et al. (2010) *Dev Dyn* 239, 3204-14.
10. Mahoney, S.E. et al. (2012) *Epigenetics* 7, 400-8.
11. Bennett, K.L. et al. (2008) *Cancer Res* 68, 4494-9.
12. Bennett, K.L. et al. (2009) *Cancer Res* 69, 9301-5.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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