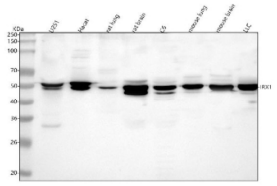
IRX1 Antibody / Iroquois-class homeodomain protein (FY12123)

Catalog No.	Formulation	Size
FY12123	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P78414
Applications	Western Blot: 0.25-0.5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This IRX1 antibody is available for research use only.



Western blot analysis of IRX1 using anti-IRX1 antibody. Lane 1: human U251 whole cell lysates, Lane 2: human Hacat whole cell lysates, Lane 3: rat lung tissue lysates, Lane 4: rat brain tissue lysates, Lane 5: rat C6 whole cell lysates, Lane 6: mouse lung tissue lysates, Lane 7: mouse brain tissue lysates, Lane 8: mouse LLC tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-IRX1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A specific band was detected for IRX1 at approximately 50 kDa. The expected band size for IRX1 is at 50 kDa.

Description

IRX1 antibody detects Iroquois-class homeodomain protein IRX1, encoded by the IRX1 gene on chromosome 5p15.33. IRX1 is a transcription factor belonging to the Iroquois homeobox gene family, which regulates embryonic patterning, neuronal differentiation, and organogenesis. IRX1 contains a conserved homeodomain that binds DNA and directs gene

expression programs critical for tissue development. In vertebrates, IRX1 contributes to forebrain, heart, limb, and craniofacial patterning. By modulating downstream effectors, it integrates positional cues during embryogenesis, ensuring correct morphogenesis.

IRX1 expression persists in select adult tissues, suggesting roles beyond development, including neuronal plasticity and epithelial regulation. Dysregulation of IRX1 has been linked to oncogenesis. Tumor suppressor roles are observed in gastric cancer, where IRX1 downregulation correlates with poor prognosis, while in other cancers it may function as an oncogene depending on cellular context. Epigenetic silencing of IRX1 through promoter methylation has been reported, highlighting transcriptional repression as a mechanism in cancer progression. IRX1 antibody therefore provides researchers with a means to examine both developmental biology and disease-associated misregulation.

At the molecular level, IRX1 acts as a transcriptional regulator of Wnt, BMP, and Notch signaling pathways, impacting proliferation, differentiation, and apoptosis. In cardiac development, IRX1 contributes to ventricular chamber specification and conduction system maturation. In neural development, it regulates differentiation of specific neuronal subtypes. Animal models with IRX1 knockouts display craniofacial abnormalities, cardiac defects, and disrupted hindbrain segmentation, highlighting its multifaceted role.

Experimentally, IRX1 antibody has applications in immunohistochemistry, immunofluorescence, and western blotting. It is used to track IRX1 expression during embryogenesis, to validate promoter methylation effects in tumors, and to study transcription factor localization in nuclei. NSJ Bioreagents provides IRX1 antibody to facilitate investigations into morphogenetic regulation, cancer epigenetics, and gene regulatory networks.

Application Notes

Optimal dilution of the IRX1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human IRX1 recombinant protein (Position: Q95-A480) was used as the immunogen for the IRX1 antibody.

Storage

After reconstitution, the IRX1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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