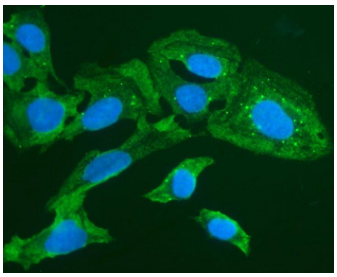
FOXI1 Antibody / Forkhead box protein I1 (FY13299)

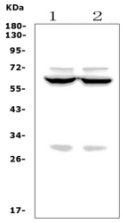
Catalog No.	Formulation	Size
FY13299	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

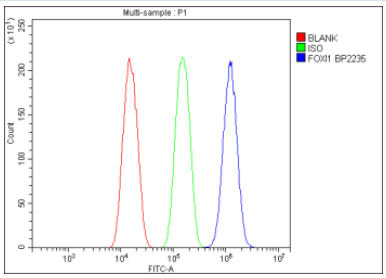
Availability	1-2 days
Species Reactivity	Human, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4, 0.01 mg NaN3.
UniProt	Q12951
Localization	Nucleolus, Vesicles
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This FOXI1 antibody is available for research use only.



Immunofluorescent staining of FOXI1 using anti-FOXI1 antibody (green). FOXI1 was detected in immunocytochemical section of U20S cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2ug/ml rabbit anti-FOXI1 antibody overnight at 4oC. DyLight 488 conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of FOXI1 using anti-FOXI1 antibody. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat kidney tissue lysates, Lane 2: monkey COS-7 cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA 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-FOXI1 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 predominant band is detected at an approximately 60 kDa in both samples, running above the predicted ~41 kDa size but likely representing full length FOXI1 with post translational modifications. Additional weaker bands at roughly 70 kDa and 30 kDa may correspond to further modified or truncated FOXI1 species, or minor cross reactive proteins.



Flow Cytometry analysis of cells using anti-FOXI1 antibody. Overlay histogram showing cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-FOXI1 antibody (1ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1ug/million) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

FOXI1 antibody targets Forkhead box protein I1, a member of the FOX family of transcription factors characterized by a conserved forkhead or 'winged helix' DNA-binding domain. The FOXI1 gene, located on chromosome 5q35.1, encodes a nuclear transcription factor that regulates ion transport and epithelial differentiation, particularly in the inner ear, kidney, and epididymis. FOXI1 controls expression of genes involved in acid-base balance and fluid homeostasis, including the vacuolar H+-ATPase subunit and pendrin (SLC26A4), a chloride/bicarbonate exchanger essential for maintaining luminal pH.

Structurally, FOXI1 contains a 110-amino acid forkhead domain that interacts with specific DNA motifs to modulate transcriptional activity. It functions as a transcriptional activator for genes expressed in intercalated cells of the distal nephron and cochlear epithelial cells. In the inner ear, FOXI1 contributes to endolymphatic ion transport and hearing development. In the kidney, loss of FOXI1 disrupts acid secretion, resulting in distal renal tubular acidosis (dRTA). Genetic mutations in FOXI1 have been linked to autosomal recessive dRTA and sensorineural hearing loss, demonstrating its dual role in renal and auditory physiology.

FOXI1 also participates in epithelial polarity regulation and may influence Wnt and Notch signaling pathways during organogenesis. Dysregulation of FOXI1 expression has been reported in certain cancers, where it may contribute to altered epithelial transport and cell differentiation. Functional studies suggest FOXI1 acts as a transcriptional regulator for ion transport proteins and can modulate developmental genes associated with morphogenesis of the ear and kidney.

Immunohistochemical staining using FOXI1 antibody reveals nuclear localization in renal intercalated cells, cochlear epithelium, and reproductive tissues. FOXI1 antibody from NSJ Bioreagents provides an essential reagent for research in transcriptional regulation, epithelial physiology, and hereditary renal and auditory disorders.

Application Notes

Optimal dilution of the FOXI1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human FOXI1 recombinant protein (Position: M1-V378) was used as the immunogen for the FOXI1 antibody.

Storage

After reconstitution, the FOXI1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.