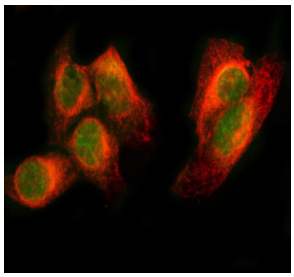
PAX8 Antibody / Paired box gene 8 (FY12105)

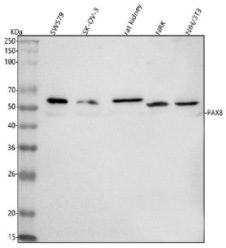
Catalog No.	Formulation	Size
FY12105	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	Q06710
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This PAX8 antibody is available for research use only.



IF analysis of PAX8 using anti-PAX8 antibody (green) and anti-Beta Tubulin antibody (red). PAX8 was detected in immunocytochemical section of HELA cell. 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 5 ug/ml rabbit anti-PAX8 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of PAX8 using anti-PAX8 antibody. Lane 1: human SW579 whole cell lysates, Lane 2: human SK-OV-3 whole cell lysates, Lane 3: rat kidney tissue lysates, Lane 4: rat NRK whole cell lysates, Lane 5: mouse NIH/3T3 whole cell 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-PAX8 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 PAX8 at approximately 48 kDa. The expected band size for PAX8 is at 48 kDa.

Description

PAX8 antibody detects Paired box protein Pax-8, encoded by the PAX8 gene. Paired box protein Pax-8 is a transcription factor that plays a critical role in thyroid gland development, renal morphogenesis, and Mullerian duct differentiation. PAX8 antibody provides researchers with a vital reagent for studying transcriptional regulation, organogenesis, and tumor diagnostics.

PAX8 belongs to the paired box (PAX) family of transcription factors, which share a conserved DNA-binding paired domain. Research using PAX8 antibody has shown that it is essential for thyroid follicular cell development and regulates transcription of thyroid-specific genes including thyroglobulin and thyroperoxidase. These functions are crucial for thyroid hormone biosynthesis and endocrine regulation.

Studies with PAX8 antibody have revealed that PAX8 is also expressed in kidney and Mullerian duct-derived tissues, where it regulates organ formation and differentiation. This broad developmental role emphasizes its importance in multiple systems. PAX8 knockout mice display thyroid agenesis and renal malformations, demonstrating its essential developmental functions.

Dysregulation of Paired box protein Pax-8 has been associated with thyroid disease, infertility, and cancer. Research using PAX8 antibody has shown that PAX8 mutations contribute to congenital hypothyroidism and thyroid dysgenesis. In oncology, PAX8 is frequently expressed in thyroid carcinomas, renal cell carcinomas, and ovarian carcinomas, making it a reliable immunohistochemical marker for tumor diagnosis.

PAX8 antibody is widely applied in immunohistochemistry, western blotting, and chromatin immunoprecipitation. Immunohistochemistry highlights diagnostic expression in thyroid and renal tumors, western blotting quantifies protein levels, and ChIP studies identify DNA binding sites. These applications make PAX8 antibody indispensable in developmental biology and cancer pathology.

By providing validated PAX8 antibody reagents, NSJ Bioreagents supports studies into thyroid development, transcriptional regulation, and oncology. Detection of Paired box protein Pax-8 provides researchers with insight into how transcription factors govern organogenesis and disease.

Application Notes

Optimal dilution of the PAX8 antibody should be determined by the researcher.

Immunogen

E.coli-derived human PAX8 recombinant protein (Position: Q137-L450) was used as the immunogen for the PAX8 antibody.

Storage

After reconstitution, the PAX8 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.