

PAX8 (D2S2I) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC, ChIP	H Mk	Endogenous	48	Rabbit IgG	#Q06710	7849

Product Usage Information

For optimal ChIP results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10⁶ cells) per IP. This antibody has been validated using SimpleChIP[®] Enzymatic Chromatin IP Kits.

Application

Western Blotting
Immunoprecipitation
Immunofluorescence (Immunocytochemistry)
Chromatin IP

Dilution

1:1000
1:50
1:200
1:50

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

PAX8 (D2S2I) Rabbit mAb recognizes endogenous levels of total PAX8 protein. PAX8 (D2S2I) Rabbit mAb may detect other isoforms of Pax8.

Species predicted to react based on 100% sequence homology

Rat

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly274 of human PAX8 protein.

Background

Paired box (PAX) proteins are a family of transcription factors that play important and diverse roles in animal development (1). Nine PAX proteins (PAX1-9) have been described in humans and other mammals. They are defined by the presence of an amino-terminal "paired" domain, consisting of two helix-turn-helix motifs, with DNA binding activity (2). PAX proteins are classified into four structurally distinct subgroups (I-IV) based on the absence or presence of a carboxy-terminal homeodomain and a central octapeptide region. Subgroup I (PAX1 and 9) contains the octapeptide but lacks the homeodomain; subgroup II (PAX2, 5, and 8) contains the octapeptide and a truncated homeodomain; subgroup III (PAX3 and 7) contains the octapeptide and a complete homeodomain; and subgroup IV (PAX4 and 6) contains a complete homeodomain but lacks the octapeptide region (2). PAX proteins play critically important roles in development by regulating transcriptional networks responsible for embryonic patterning and organogenesis (3); a subset of PAX proteins also maintain functional importance during postnatal development (4). Research studies have implicated genetic mutations that result in aberrant expression of PAX genes in a number of cancer subtypes (1-3), with members of subgroups II and III identified as potential mediators of tumor progression (2). PAX8 is involved in the development of thyroid follicular cells and the expression of thyroid-specific genes (5). Investigators have associated mutations in the PAX8 gene with thyroid dysgenesis, thyroid follicular carcinomas, and atypical follicular thyroid adenomas (6,7).

Background References

- Lang, D. et al. (2007) *Biochem Pharmacol* 73, 1-14.
- Robson, E.J. et al. (2006) *Nat Rev Cancer* 6, 52-62.
- Wang, Q. et al. (2008) *J Cell Mol Med* 12, 2281-94.
- Blake, J.A. et al. (2008) *Dev Dyn* 237, 2791-803.
- Kimura, S. (2011) *J Thyroid Res* 2011, 710213.
- Fagman, H. and Nilsson, M. (2011) *J Mol Endocrinol* 46, R33-42.
- Albarell, F. et al. (2012) *Ann Endocrinol (Paris)* 73, 155-64.

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 **IF-IC:** Immunofluorescence (Immunocytochemistry)
ChIP: Chromatin IP

Cross-Reactivity Key

H: Human **Mk:** Monkey

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