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PAX8 Antibody

#9857 Store at -20C

For Research Use Only. Not for Use in Diagnostic Procedures.

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

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:100

Storage

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

Specificity/Sensitivity

PAX8 Antibody recognizes endogenous levels of total PAX8 protein.

Species predicted to react based on 100% sequence homology

Mouse, Rat

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human Pax8 protein. Antibodies are purified by protein A and peptide affinity chromatography.

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

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

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 **Mk:** Monkey

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