Revision 1

#9666 Store at -20C

PAX2 Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R	Endogenous	47	Rabbit	#Q02962	5076

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	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

PAX2 Antibody recognizes endogenous levels of total PAX2 protein.

Species predicted to react based on 100% sequence homology:

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding His282 of human PAX2 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).
PAX2 is involved in the development of the nervous and excretory systems including the kidney and urogentical tract, the optic stalk, ear, midbrain-hindbrain junction, and the spinal cord (5,6).

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. Schedl, A. and Hastie, N.D. (2000) *Curr Opin Genet Dev* 10, 543-9.
6. Torres, M. et al. (1995) *Development* 121, 4057-65.

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

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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Limited Uses