Qty: 100µg/400 µL

Rabbit anti-phospho-Pax2 (Ser393)

For Research Use Only

Catalog No. 36-9200

Lot No.

Rabbit anti-phospho-Pax2 (Ser393)

FORM

This polyclonal antibody is supplied as a 400 µl aliquot at a concentration of 0.25 mg/ml in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.281

IMMUNOGEN

Synthetic phospho-peptide derived from the sequence surrounding the phosphorylated Ser393 residue of mouse and human Pax2 (paired box protein 2). Ser393 of the 415 amino acid mouse Pax2 isoform is equivalent to Ser394 of the 416 amino acid human Pax2 isoform, and to Ser371 of the 393 amino acid human Pax2 isoform.

SPECIFICITY

This antibody identifies the Pax2 protein when phosphorylated at Ser393. Based on amino acid sequence homology with Pax5 and Pax8, cross-reactivity with these proteins is likely. It is also likely that Ser393 will be phosphorylated in Pax5 and Pax8, given the conservation of the context. On Western blot analysis of JNK-stimulated (phosphorylated) fusion proteins, this antibody identifies a single band at ~50 kDa. This antibody demonstrated no reactivity with purified, unphosphorylated GST-Pax2 proteins. On Western blot analysis of HEK293 cells, a thick band between ~42-45 kDa is observed, which may represent different human Pax2 isoforms and/or Pax8.

REACTIVITY

Reactivity has been confirmed with human HEK293 cell lysates and purified GST-Pax2 proteins phosphorylated by JNK. Based on 100% amino acid sequence homology, cross-reactivity with mouse, chicken, zebrafish, and frog is expected.

Sample	Western Blotting	ELISA
Human	+++	ND
Mouse	ND	ND
Immunogen	N/A	+++

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

ELISA: 0.1-1µg/mL
Western Blotting: 1-3 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at –20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

BACKGROUND

Pax2 is a transcription factor encoded by a gene that is required for the embryonic development of a variety of mammalian tissues, including the kidney,[1] optic cup, and inner ear.[2] Structurally, the Pax2/5/8 protein subfamily is characterized by an N-terminal paired domain, a conserved octapeptide sequence, and a paired-paired type homeobox. The N-terminal paired domain of the Pax2/5/8 proteins binds DNA, while the C-terminal region is required for activation of target genes.[3] In human mammary tissue, Pax2 expression has been identified in sub-populations of mammary ductal cells, and also in >50% of human breast tumors surveyed (n=38).[4] Mouse studies have demonstrated co-localization of Pax2 and WT1 (Wilms' tumor suppressor protein) in the nuclei of normal and cancerous breast cells, indicating a role for Pax2 in the regulation of the response to progesterone in the mature mammary gland.[4]

Pax2 is a phosphorylation target of JNK, and has been observed to co-imunoprecipitate with JIP1.[5] Phosphorylation of Pax2 enhances its ability to transactivate reporter genes.[5]

REFERENCES

1. Torres M, et al. *Development* 121(12):4057-4065, 1995.
2. Torres M, et al. *Development* 122(11):3381-3391, 1996.
3. Dorfler P, et al. *EMBO J* 15(8):1971-1982, 1996.
4. Silberstein GB, et al. *Oncogene* 21:1009-1016, 2002.
5. Cai Y, et al. *J Biol Chem* 277(2):1217-1222, 2002.

RELATED PRODUCTS

Product	***Clone/PAD****	***Cat. No.***
Rabbit anti-Pax2	Z-RX2	71-6000
Rabbit anti-JIP 1 (N-term)	ZMD.176	34-5200
Rabbit anti-JIP 1/2 (SH3)	ZMD.177	34-5300
Mouse anti-JNK 1	4A2G12	35-9800
Rabbit anti-phospho-JNK (Thr183/Tyr185)	PD183	36-9300
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

*PAD: Polyclonal Antibody Designation

Conjugate	**ZyMAX™ Goat x Rabbit IgG (H+L)**	**ZyMAX™ Goat x Mouse IgG (H+L)**
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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