Revision 1

#13736 Store at -20C

Phospho-Progesterone Receptor (Ser294) 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	H	Endogenous	90 (PR-A), 118 (PR-B)	Rabbit	#P06401	5241

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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

Phospho-Progesterone Receptor (Ser294) Antibody recognizes endogenous levels of progesterone receptor B (PR-B) and progesterone receptor A (PR-A) proteins only when phosphorylated at Ser294 and Ser130, respectively. This antibody does not cross-react with other progesterone receptor family members.

Species predicted to react based on 100% sequence homology:

Mouse, Rat, Pig, Horse

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser294 of human progesterone receptor B (PR-B) protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Human progesterone receptor (PR) is expressed as two forms: the full length PR-B and the short form PR-A. PR-A lacks the first 164 amino acid residues of PR-B (1,2). Both PR-A and PR-B are ligand activated, but differ in their relative ability to activate target gene transcription (3,4). The activity of PR is regulated by phosphorylation; at least seven serine residues are phosphorylated in its amino-terminal domain. Three sites (Ser81, Ser102, and Ser162) are unique to full length PR-B, while other sites (Ser190, Ser294, Ser345, and Ser400) are shared by both isoforms (5). Phosphorylation of PR-B at Ser190 (equivalent to Ser26 of PR-A) is catalyzed by CDK2 (6). Mutation of Ser190 results in decreased activity of PR (7), suggesting that the phosphorylation at Ser190 may be critical to its biological function.
Progesterone receptor Ser294 is as an important hormone-dependent phospho-acceptor site that serves as an extracellular signaling “sensor." Research studies indicate that p44/p42 MAP kinases are responsible for phosphorylation of progesterone receptor at Ser294 following hormone binding. This phosphorylation event promotes nuclear retention of the receptor, enhanced transcriptional activity, and ubiquitin-dependent proteasomal degradation (6,8,9).

Background References

1. Evans, R.M. (1988) *Science* 240, 889-895.
2. Kastner, P. et al. (1990) *EMBO J.* 112, 1603-1614.
3. Giangrande, P.H. et al. (2000) *Mol. Cell. Biol.* 20, 3102-3115.
4. Wen, D.X. et al. (1994) *Mol. Cell. Biol.* 14, 8356-8364.
5. Clemm, D.L. et al. (2000) *Mol. Endocrinol.* 14, 52-65.
6. Zhang, Y. et al. (1997) *Mol. Endocrinol.* 11, 823-832.
7. Takimoto, G.S. et al. (1996) *J. Biol. Chem.* 271, 13308-13316.
8. Lange, C.A. et al. (2000) *Proc Natl Acad Sci U S A* 97, 1032-7.
9. Daniel, A.R. et al. (2007) *Steroids* 72, 188-201.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

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