Revision 1

#12783 Store at -20C

Phospho-Progesterone Receptor (Ser345) 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 (Ser345) Antibody recognizes endogenous levels of progesterone receptor B (PR-B) and progesterone receptor A (PR-A) proteins only when phosphorylated at Ser345 and Ser181, respectively. This antibody does not cross-react with other progesterone receptor family members.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser345 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.
Research studies have demonstrated ligand-dependent phosphorylation of PR-B at Ser345 is catalyzed by MAPK and plays an important role in mediating the proliferation of breast cancer cells. Investigators have shown that Ser345-phosphorylated PR-B associates with Sp1 to regulate *EGFR* and *p21* transcription (8).

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. Faivre, E.J. et al. (2008) *Mol Endocrinol* 22, 823-37.

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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