Product name: Anti-Progesterone Receptor antibody

Description: Rabbit polyclonal to Progesterone Receptor

Host species: Rabbit

Specificity: ab63605 detects endogenous levels of total Progesterone Receptor protein.

Tested applications: Suitable for: ELISA, ICC/IF, ICC, IHC-P

Species reactivity: Reacts with: Mouse, Human

Immunogen: Synthetic non-phosphopeptide derived from Human Progesterone Receptor around the phosphorylation site of serine 294 (G-R-S²-P-L).

Positive control: A549 cells

Form: Liquid

Storage instructions: Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.

Storage buffer: pH: 7.40
Preservative: 0.02% Sodium azide
Constituents: PBS, 50% Glycerol, 0.87% Sodium chloride

Without Mg2+ and Ca2+

Purity: Immunogen affinity purified

Purification notes: ab63605 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.

Clonality: Polyclonal

Isotype: IgG

Applications:

Our Abpromise guarantee covers the use of ab63605 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Function

The steroid hormones and their receptors are involved in the regulation of eukaryotic gene expression and affect cellular proliferation and differentiation in target tissues. Progesterone receptor isoform B (PRB) is involved in the activation of c-SRC/MAPK signaling on hormone stimulation.

Isoform A: inactive in stimulating c-Src/MAPK signaling on hormone stimulation.

Isoform 4: Increases mitochondrial membrane potential and cellular respiration upon stimulation by progesterone.

Sequence similarities

Belongs to the nuclear hormone receptor family. NR3 subfamily.

Contains 1 nuclear receptor DNA-binding domain.

Domain

Composed of three domains: a modulating N-terminal domain, a DNA-binding domain and a C-terminal ligand-binding domain.

Post-translational modifications

Phosphorylated on multiple serine sites. Several of these sites are hormone-dependent.

Phosphorylation on Ser-294 occurs preferentially on isoform B, is highly hormone-dependent and modulates ubiquitination and sumoylation on Lys-388. Phosphorylation on Ser-102 and Ser-345 also requires induction by hormone. Basal phosphorylation on Ser-81, Ser-162, Ser-190 and Ser-400 is increased in response to progesterone and can be phosphorylated in vitro by the CDK2-A1 complex. Increased levels of phosphorylation on Ser-400 also in the presence of EGF, heregulin, IGF, PMA and FBS. Phosphorylation at this site by CDK2 is ligand-independent, and increases nuclear translocation and transcriptional activity. Phosphorylation at Ser-162 and Ser-294, but not at Ser-190, is impaired during the G(2)/M phase of the cell cycle. Phosphorylation on Ser-345 by ERK1/2 MAPK is required for interaction with SP1.

Sumoylation is hormone-dependent and represses transcriptional activity. Sumoylation on all three sites is enhanced by PIAS3. Desumoylated by SENP1. Sumoylation on Lys-388, the main site of sumoylation, is repressed by ubiquitination on the same site, and modulated by phosphorylation at Ser-294.

Ubiquitination is hormone-dependent and represses sumoylation on the same site. Promoted by MAPK-mediated phosphorylation on Ser-294.

Palmitoylated by ZDHHC7 and ZDHHC21. Palmitoylation is required for plasma membrane targeting and for rapid intracellular signaling via ERK and AKT kinases and cAMP generation.

Cellular localization

Nucleus. Cytoplasm. Nucleoplasmic shuttling is both hormone- and cell cycle-dependent. On hormone stimulation, retained in the cytoplasm in the G(1) and G(2)/M phases; Mitochondrion outer membrane and Nucleus. Cytoplasm. Mainly nuclear.

Images
Paraffin-embedded human liver carcinoma tissue stained for Progesterone Receptor with ab63605 at 1/50 dilution in immunohistochemical analysis.

In the right-hand panel the sample is incubated with the immunizing peptide.

ab63605, at a 1/500 dilution, staining Human Progesterone Receptor in A549 cells, with (+) or without (-) immunising peptide, by Immunofluorescence.

ab63605 staining Progesterone Receptor in Mouse uterus tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde, permeabilized with 0.3% Triton X-100 and blocked with 2% BSA for 1 hour at room temperature; antigen retrieval was by heat mediation in Tris_EDTA. Samples were incubated with primary antibody (1/100) for 10 hours at 4°C. A HRP-conjugated goat anti-rabbit IgG polyclonal (1/100) was used as the secondary antibody.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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