Product name: Anti-Progesterone Receptor antibody [YR85] ab32085

Description: Rabbit monoclonal [YR85] to Progesterone Receptor

Host species: Rabbit

Specificity: ab32085 recognises progesterone receptor. The antibody does not cross-react with other NR3 family members. Since the recognized epitope is near the N-terminal end of the protein, this product should only detect isoform B and not isoform A.

Tested applications: Suitable for: WB, IHC-P, Flow Cyt, IP, ICC/IF

Species reactivity: Reacts with: Human

Immunogen: Synthetic peptide within Human Progesterone Receptor (N terminal). The exact sequence is proprietary.

Positive control: Human breast carcinoma, T47D cell lysate. This antibody gave a positive result when used in the following formaldehyde fixed cell lines: DU145.

General notes: Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Our RabMAB® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAB® patents

This product is a recombinant rabbit monoclonal antibody.

Properties

Form: Liquid

Storage instructions: Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.

Dissociation constant (K_D): K_D = 2.48 x 10^{-10} M
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 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 homone- 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**

Flow Cytometry analysis of T47D (human mammary gland ductal carcinoma) cells labeling Progesterone Receptor with purified ab32085 at 1:1100 dilution(1ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (ab150077)(1:2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) (ab172730) was used as the isotype control, Cell without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.

ICC/IF image of ab32085 stained DU145 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab32085 at 5µg/ml overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti- rabbit (ab96899) IgG (H+L) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.
Anti-Progesterone Receptor antibody [YR85] (ab32085) at 1/10000 dilution + T47D cell lysate

**Predicted band size:** 99 kDa

**Observed band size:** 135,99 kDa

*why is the actual band size different from the predicted?*

Immunohistochemical analysis of progesterone receptor expression in paraffin embedded human breast carcinoma, using 1/100 ab32085.

**Equilibrium disassociation constant (K_D)**

Learn more about K_D

Click here to learn more about K_D

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