

# PR (2C11F11): sc-130071

## BACKGROUND

The effects of progesterone are mediated by two functionally different isoforms of the progesterone receptor, PR-A and PR-B, which are transcribed from distinct, estrogen inducible promoters within a single copy of the PR gene. The first 164 amino acids of PR-B are absent in PR-A. Progesterone bound PR-A and PR-B have different transcription activation properties. Specifically, PR-B functions as a transcriptional activator in most cell and promoter contexts, while PR-A is transcriptionally inactive and functions as a strong ligand dependent transdominant repressor of steroid hormone receptor transcriptional activity. An inhibitory domain (ID), which maps to the amino-terminus of the receptor, exists within both PR isoforms. Interestingly, the ID is functionally active only in PR-A and is necessary for steroid hormone trans-repression by PR-A, suggesting that PR-A and PR-B may have different conformations in the cell.

## REFERENCES

1. Law, M.L., et al. 1987. The progesterone receptor gene maps to human chromosome band 11q13, the site of the mammary oncogene Int-2. *Proc. Natl. Acad. Sci. USA* 84: 2877-2881.
2. Kastner, P., et al. 1990. Two distinct estrogen-regulated promoters generate transcripts encoding the two functionally different human progesterone receptor forms A and B. *EMBO J.* 9: 1603-1614.

## CHROMOSOMAL LOCATION

Genetic locus: PGR (human) mapping to 11q22.1.

## SOURCE

PR (2C11F11) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 731-909 of PR of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PR (2C11F11) is recommended for detection of PR-A and PR-B of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PR siRNA (h2): sc-270221, PR shRNA Plasmid (h2): sc-270221-SH and PR shRNA (h2) Lentiviral Particles: sc-270221-V.

Molecular Weight of PR-A: 81 kDa.

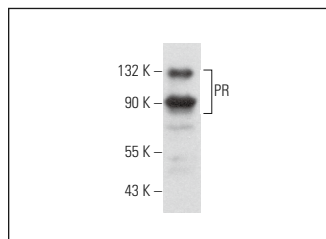
Molecular Weight of PR-B: 116 kDa.

Positive Controls: T-47D cell lysate: sc-2293, MCF7 whole cell lysate: sc-2206 or PC-3 cell lysate: sc-2220.

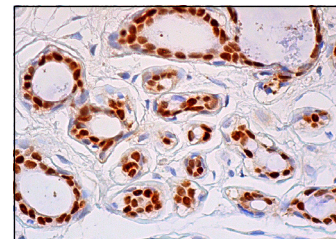
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



PR (2C11F11): sc-130071. Western blot analysis of PR expression in T-47D whole cell lysate.



PR (2C11F11): sc-130071. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Papanikolaou, V., et al. 2011. hTERT regulation by NFκB and c-Myc in irradiated HER2-positive breast cancer cells. *Int. J. Radiat. Biol.* 87: 609-621.
2. Kumar, R., et al. 2011. Compartmentalized secretory leukocyte protease inhibitor expression and hormone responses along the reproductive tract of postmenopausal women. *J. Reprod. Immunol.* 92: 88-96.
3. Pang, Y., et al. 2015. Progesterone increases nitric oxide synthesis in human vascular endothelial cells through activation of membrane progesterone receptor-α. *Am. J. Physiol. Endocrinol. Metab.* 308: E899-E911.
4. Palmerini, C.A., et al. 2016. Antagonistic effect of a salivary proline-rich peptide on the cytosolic Ca<sup>2+</sup> mobilization induced by progesterone in oral squamous cancer cells. *PLoS ONE* 11: e0147925.
5. Zheng, L., et al. 2017. Benzoquinone from *Fusarium* pigment inhibits the proliferation of estrogen receptor-positive MCF-7 cells through the NFκB pathway via estrogen receptor signaling. *Int. J. Mol. Med.* 39: 39-46.
6. Duforestel, M., et al. 2019. Glyphosate primes mammary cells for tumorigenesis by reprogramming the epigenome in a TET3-dependent manner. *Front. Genet.* 10: 885.
7. de Jesus Nascimento, A.E., et al. 2023. Spatial and temporal expression profile of sex steroid receptors and antioxidant enzymes in the maternal-fetal interface of domestic cats. *Theriogenology* 210: 234-243.
8. da Silva, T.Q.M., et al. 2025. Hypothyroidism alters uterine kisspeptin system and activity modulators in cyclic rats. *Int. J. Mol. Sci.* 26: 543.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **PR (F-4): sc-166169** for PR antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.