SANTA CRUZ BIOTECHNOLOGY, INC.

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 transrepression 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_{2b} 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.

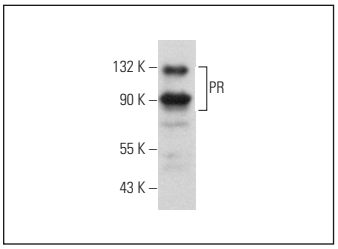
Molecular Weight of PR-B: 116 kDa.

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

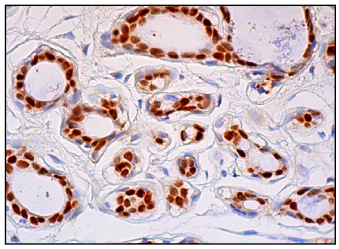
STORAGE

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. and Thomas, P. 2011. Progesterone signals through membrane progesterone receptors (mPRs) in MDA-MB-468 and mPR-transfected MDA-MB-231 breast cancer cells which lack full-length and N-terminally truncated isoforms of the nuclear progesterone receptor. Steroids 76: 921-928.
4. 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.
5. Palmerini, C.A., et al. 2016. Antagonistic effect of a salivary proline-rich peptide on the cytosolic Ca^{2+} mobilization induced by progesterone in oral squamous cancer cells. PLoS ONE 11: e0147925.
6. 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.
7. Duforestel, M., et al. 2019. Glyphosate primes mammary cells for tumorigenesis by reprogramming the epigenome in a TET3-dependent manner. Front. Genet. 10: 885.

RESEARCH USE

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