

PR (B-30): sc-811

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 (B-30) is a mouse monoclonal antibody produced by immunization with native human progesterone receptor purified from breast cancer cells.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-811 X, 200 µg/0.1 ml.

APPLICATIONS

PR (B-30) is recommended for detection of 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PR siRNA (h): sc-29457, PR shRNA Plasmid (h): sc-29457-SH and PR shRNA (h) Lentiviral Particles: sc-29457-V.

PR (B-30) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PR-A: 81 kDa.

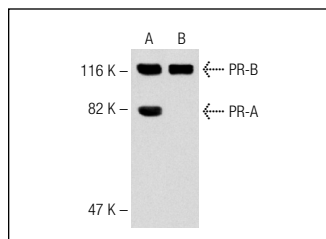
Molecular Weight of PR-B: 116 kDa.

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



Western blot analysis of progesterone receptor isoform (PR-A and PR-B) expression in T-47D whole cell lysates (**A,B**). Antibodies tested include PR (AB-52): sc-810 (**A**) and PR (B-30): sc-811 (**B**).

SELECT PRODUCT CITATIONS

1. Sasaki, M., et al. 2001. Progesterone receptor B gene inactivation and CpG hypermethylation in human uterine endometrial cancer. *Cancer Res.* 61: 97-102.
2. Demirpence, E., et al. 2002. An estrogen-responsive element-targeted histone deacetylase enzyme has an antiestrogen activity that differs from that of hydroxytamoxifen. *Cancer Res.* 62: 6519-6528.
3. Koop, R., et al. 2003. Histone H1 enhances synergistic activation of the MMTV promoter in chromatin. *EMBO J.* 22: 588-599.
4. Shah, C., et al. 2005. N-terminal region of progesterone receptor B isoform in human spermatozoa. *Int. J. Androl.* 28: 360-371.
5. Prybylowski, P., et al. 2008. Trichostatin A and 5 Aza-2' deoxycytidine decrease estrogen receptor mRNA stability in ER positive MCF7 cells through modulation of HuR. *Breast Cancer Res. Treat.* 111: 15-25.
6. Tamm, K., et al. 2009. Genes targeted by the estrogen and progesterone receptors in the human endometrial cell lines HEC1A and RL95-2. *Reprod. Biol. Endocrinol.* 7: 150.
7. Kreizman-Shefer, H., et al. 2014. Distribution of estrogen and progesterone receptors isoforms in endometrial cancer. *Diagn. Pathol.* 9: 77.
8. Moberg, C., et al. 2015. Levels of oestrogen receptor, progesterone receptor and α B-crystallin in eutopic endometrium in relation to pregnancy in women with endometriosis. *Hum. Fertil.* 18: 30-37.

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, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.