

PR (C-20): sc-539

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.

CHROMOSOMAL LOCATION

Genetic locus: PGR (human) mapping to 11q22.1; Pgr (mouse) mapping to 9 A1.

SOURCE

PR (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PR of human origin.

PRODUCT

Each vial contains 100 µg IgG 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-539 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-539 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PR (C-20) is recommended for detection of progesterone receptor (PR-A and PR-B) of mouse, rat and 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).

PR (C-20) is also recommended for detection of progesterone receptor (PR-A and PR-B) in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for PR siRNA (h2): sc-270221, PR siRNA (m): sc-36309, PR shRNA Plasmid (h2): sc-270221-SH, PR shRNA Plasmid (m): sc-36309-SH, PR shRNA (h2) Lentiviral Particles: sc-270221-V and PR shRNA (m) Lentiviral Particles: sc-36309-V.

PR (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

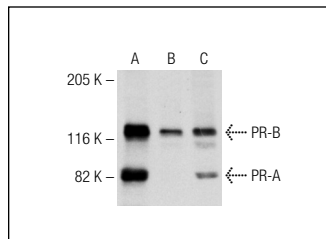
Molecular Weight of PR-A: 81 kDa.

Molecular Weight of PR-B: 116 kDa.

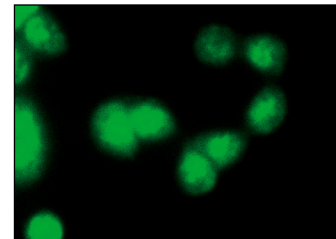
STORAGE

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

DATA



PR (C-20): sc-539. Western blot analysis of progesterone receptor isoform (PR-A and PR-B) expression in T-47D (A), MCF7 (B) and PC-3 (C) whole cell lysates. Note N-terminally truncated forms in lane A.



PR (C-20): sc-539. Immunofluorescence staining of methanol-fixed T-47D cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Thind, K.K., et al. 1997. Expression of estrogen and progesterone receptors in glutamate and GABA neurons of the pubertal female monkey hypothalamus. *Neuroendocrinology* 65: 314-324.
- Goldsmith, P.C., et al. 1997. Estrogen and progesterone receptor expression in neuroendocrine and related neurons of the pubertal female monkey hypothalamus. *Neuroendocrinology* 65: 325-334.
- Yang, C., et al. 2010. Cyclin D1 enhances the response to estrogen and progesterone by regulating progesterone receptor expression. *Mol. Cell. Biol.* 30: 3111-3125.
- Razandi, M., et al. 2010. Heat shock protein 27 is required for sex steroid receptor trafficking to and functioning at the plasma membrane. *Mol. Cell. Biol.* 30: 3249-3261.
- Guo C, et al. 2010. Induction of progesterone receptor A form attenuates the induction of cytosolic phospholipase A2α expression by cortisol in human amnion fibroblasts. *Reproduction* 139: 915-922.
- Mao, G., et al. 2010. Progesterone increases systemic and local uterine proportions of CD4⁺CD25⁺ Treg cells during midterm pregnancy in mice. *Endocrinology* 151: 5477-5488.
- Lindberg, K., et al. 2010. Expression of estrogen receptor β increases integrin α1 and integrin β1 levels and enhances adhesion of breast cancer cells. *J. Cell. Physiol.* 222: 156-167.

RESEARCH USE

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



Try **PR (F-4): sc-166169** or **PR (F-2): sc-166170**, our highly recommended monoclonal alternatives to PR (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **PR (F-4): sc-166169**.