SANTA CRUZ BIOTECHNOLOGY, INC.

PR (AB-52): sc-810

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 (AB-52) is a mouse monoclonal antibody produced by immunization with native human progesterone receptor purified from breast cancer cells.

PRODUCT

Each vial contains 200 µg IgG_1 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-810 X, 200 µg/0.1 ml.

PR (AB-52) is available conjugated to either Alexa Fluor® 546 (sc-810 AF546) or Alexa Fluor® 594 (sc-810 AF594), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-810 AF680) or Alexa Fluor® 790 (sc-810 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PR (AB-52) is recommended for detection of 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PR siRNA (h2): sc-270221, PR siRNA (m): sc-36309, PR siRNA (r): sc-270024, PR shRNA Plasmid (h2): sc-270221-SH, PR shRNA Plasmid (m): sc-36309-SH, PR shRNA Plasmid (r): sc-270024-SH, PR shRNA (h2) Lentiviral Particles: sc-270221-V, PR shRNA (m) Lentiviral Particles: sc-36309-V and PR shRNA (r) Lentiviral Particles: sc-270024-V.

PR (AB-52) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PR-A: 81 kDa.

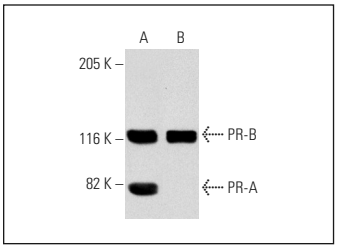
Molecular Weight of PR-B: 116 kDa.

Positive Controls: human uterus extract: sc-363784 or PC-3 cell lysate: sc-2220.

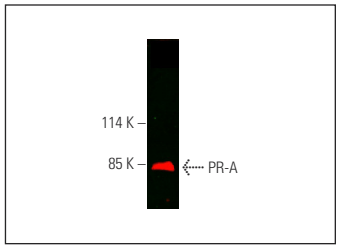
STORAGE

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 utilized include PR (AB-52): sc-810 (**A**) and PR (B-30): sc-811 (**B**).



PR (AB-52) Alexa Fluor® 790: sc-810 AF790. Direct near-infrared western blot analysis of PR expression in human uterus tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Attia, G.R., et al. 2000. Progesterone receptor isoform A but not B is expressed in endometriosis. J. Clin. Endocrinol. Metab. 85: 2897-902.
2. Fan, P., et al. 2014. Inhibition of c-Src blocks oestrogen-induced apoptosis and restores oestrogen-stimulated growth in long-term oestrogen-deprived breast cancer cells. Eur. J. Cancer 50: 457-468.
3. Sweeney, E.E., et al. 2014. Molecular modulation of estrogen-induced apoptosis by synthetic progestins in hormone replacement therapy: an insight into the women's health initiative study. Cancer Res. 74: 7060-7068.
4. Mafuvadze, B., et al. 2014. Cholesterol synthesis inhibitor RO 48-8071 suppresses transcriptional activity of human estrogen and androgen receptor. Oncol. Rep. 32: 1727-1733.
5. Liu, Y., et al. 2015. A mouse model that reproduces the developmental pathways and site specificity of the cancers associated with the human BRCA1 mutation carrier state. EBioMedicine 2: 1318-1330.
6. Germán-Castelán, L., et al. 2016. Intracellular progesterone receptor mediates the increase in glioblastoma growth induced by progesterone in the rat brain. Arch. Med. Res. 47: 419-426.
7. Liang, Y., et al. 2017. Cholesterol biosynthesis inhibitor RO 48-8071 reduces progesterone receptor expression and inhibits progestin-dependent stem cell-like cell growth in hormone-dependent human breast cancer cells. Breast Cancer 9: 487-494.
8. Méndez-López, L.F., et al. 2017. Leptin receptor expression during the progression of endometrial carcinoma is correlated with estrogen and progesterone receptors. Arch. Med. Sci. 13: 228-235.
9. Chen, Z., et al. 2018. UFH-001 cells: a novel triple negative, CAIX-positive, human breast cancer model system. Cancer Biol. Ther. 19: 598-608.

RESEARCH USE

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