SANTA CRUZ BIOTECHNOLOGY, INC.

PR (F-4): sc-166169

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

SOURCE

PR (F-4) is a mouse monoclonal antibody raised against amino acids 375-564 of PR of human origin.

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-166169 X, 200 µg/0.1 ml.

PR (F-4) is available conjugated to agarose (sc-166169 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166169 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166169 PE), fluorescein (sc-166169 FITC), Alexa Fluor® 488 (sc-166169 AF488), Alexa Fluor® 546 (sc-166169 AF546), Alexa Fluor® 594 (sc-166169 AF594) or Alexa Fluor® 647 (sc-166169 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166169 AF680) or Alexa Fluor® 790 (sc-166169 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PR (F-4) is recommended for detection of PR-A and PR-B of human origin by Western Blotting (starting dilution 1:100, 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.

PR (F-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

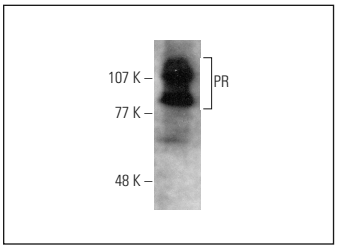
Molecular Weight of PR-A/PR-B: 81/116 kDa.

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

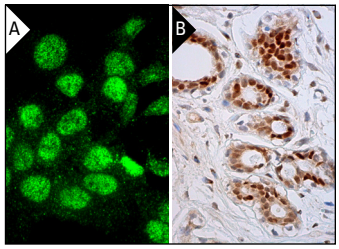
STORAGE

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

DATA



PR (F-4) HRP: sc-166169 HRP. Direct western blot analysis of PR expression in T-47D whole cell lysate.



PR (F-4): sc-166169. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Song, Z.B., et al. 2017. Testes-specific protease 50 promotes cell proliferation via inhibiting activin signaling. Oncogene 36: 5948-5957.
2. Ghosh, A., et al. 2018. MIND model for triple-negative breast cancer in syngeneic mice for quick and sequential progression analysis of lung metastasis. PLoS ONE 13: e0198143.
3. Truong, T.H., et al. 2019. Phosphorylated progesterone receptor isoforms mediate opposing stem cell and proliferative breast cancer cell fates. Endocrinology 160: 430-446.
4. Salas, A., et al. 2020. Organotypic culture as a research and preclinical model to study uterine leiomyomas. Sci. Rep. 10: 5212.
5. Dwyer, A.R., et al. 2021. Insulin receptor substrate-1 (IRS-1) mediates progesterone receptor-driven stemness and endocrine resistance in oestrogen receptor+ breast cancer. Br. J. Cancer 124: 217-227.
6. Kida, N., et al. 2021. Cigarette smoke extract activates hypoxia-inducible factors in a reactive oxygen species-dependent manner in stroma cells from human endometrium. Antioxidants 10: 48.
7. Fernando, F., et al. 2021. TBX2, a novel regulator of labour. Medicina 57: 515.
8. Lu, A.S., et al. 2021. Proteolytic targeting chimeras with specificity for plasma membrane and intracellular estrogen receptors. Mol. Pharm. 18: 1455-1469.
9. Mauro, L.J., et al. 2021. Progesterone receptors promote quiescence and ovarian cancer cell phenotypes via DREAM in p53-mutant fallopian tube models. J. Clin. Endocrinol. Metab. 106: 1929-1955.

RESEARCH USE

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