SANTA CRUZ BIOTECHNOLOGY, INC.

PR (A-2): sc-398898

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.

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; Pgr (mouse) mapping to 9 A1.

SOURCE

PR (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 538-571 within an internal region 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-398898 X, 200 µg/0.1 ml.

PR (A-2) is available conjugated to agarose (sc-398898 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398898 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398898 PE), fluorescein (sc-398898 FITC), Alexa Fluor® 488 (sc-398898 AF488), Alexa Fluor® 546 (sc-398898 AF546), Alexa Fluor® 594 (sc-398898 AF594) or Alexa Fluor® 647 (sc-398898 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398898 AF680) or Alexa Fluor® 790 (sc-398898 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398898 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

PR (A-2) is recommended for detection of PR-A and PR-B of mouse, rat and 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) 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 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.

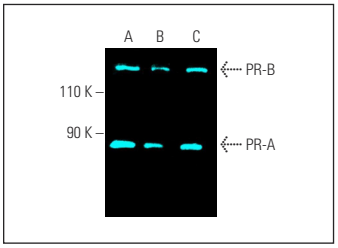
PR (A-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PR-A: 81 kDa.

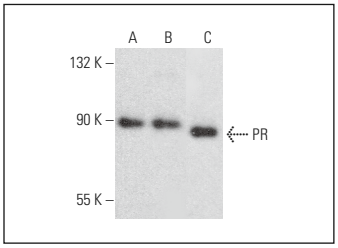
Molecular Weight of PR-B: 116 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, AT3B-1 whole cell lysate: sc-364372 or MCF7 whole cell lysate: sc-2206.

DATA



PR (A-2) Alexa Fluor® 647: sc-398898 AF647. Direct fluorescent western blot analysis of PR expression in PC-3 (**A**), MES-SA/Dx5 (**B**) and F9 (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



PR (A-2): sc-398898. Western blot analysis of PR expression in A-431 (**A**), MCF7 (**B**) and AT3B-1 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sun, L., et al. 2017. A mouse model of mammary hyperplasia induced by oral hormone administration. Afr. J. Tradit. Complement. Altern. Med. 14: 247-252.
2. Hamza, M.S., et al. 2021. Glucose and fatty acid metabolism involved in the protective effect of metformin against ulipristal-induced endometrial changes in rats. Sci. Rep. 11: 8863.
3. Xia, S., et al. 2022. Treating intrauterine adhesion using conditionally reprogrammed physiological endometrial epithelial cells. Stem Cell Res. Ther. 13: 178.

RESEARCH USE

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