SANTA CRUZ BIOTECHNOLOGY, INC.

p-PR (Ser 190): sc-101786

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. Phosphorylation of human PR occurs on at least nine serine residues. Phosphorylation of three of the residues is hormone-inducible (Ser 102, Ser 294 and Ser 345); the others are basal but hormone-stimulated.

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.
3. Wen, D.X., et al. 1994. The A and B isoforms of the human progesterone receptor operate through distinct signaling pathways within target cells. Mol. Cell. Biol. 14: 8356-8364.
4. Beck, C.A., et al. 1996. Stoichiometry and site-specific phosphorylation of human progesterone receptor in native target cells and in the baculovirus expression system. J. Biol. Chem. 271: 19546-19555.
5. Zhang, Y., et al. 1997. Phosphorylation of human progesterone receptor by cyclin-dependent kinase 2 on three sites that are authentic basal phosphorylation sites *in vivo*. Mol. Endocrinol. 11: 823-832.
6. Giangrande, P.H., et al. 1997. Mapping and characterization of the functional domains responsible for the differential activity of the A and B isoforms of the human progesterone receptor. J. Biol. Chem. 272: 32889-32900.

CHROMOSOMAL LOCATION

Genetic locus: PGR (human) mapping to 11q22.1.

SOURCE

p-PR (Ser 190) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 190 phosphorylated 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.

RESEARCH USE

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

APPLICATIONS

p-PR (Ser 190) is recommended for detection of Ser 190 phosphorylated PR 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)], 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).

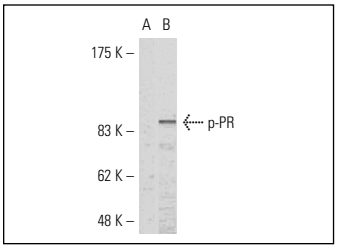
Suitable for use as control antibody for PR siRNA (h2): sc-270221, PR shRNA Plasmid (h2): sc-270221-SH and PR shRNA (h2) Lentiviral Particles: sc-270221-V.

Molecular Weight of PR-A: 81 kDa.

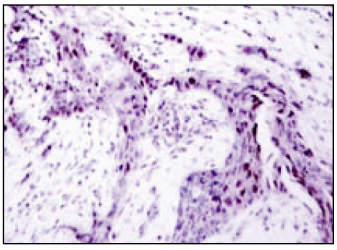
Molecular Weight of PR-B: 116 kDa.

Positive Controls: EGF-treated COS7 whole cell lysate or human breast carcinoma tissue extract.

DATA



p-PR (Ser 190): sc-101786. Western blot analysis of phosphorylated PR expression in untreated (**A**) and EGF-treated (**B**) COS7 whole cell lysates.



p-PR (Ser 190): sc-101786. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear staining.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.