

# PGRMC1 (12B7): sc-135720

## BACKGROUND

PGRMC1 (progesterone receptor membrane component 1), also known as MPR, is a 195 amino acid single-pass membrane protein that localizes to both the endoplasmic reticulum and to the microsome and contains one cytochrome b5 heme-binding domain. Expressed in a variety of tissues with highest expression in kidney and liver, PGRMC1 functions as a receptor for progesterone, a steroid hormone that is involved in embryonic development and is crucial for proper female maturation. The gene encoding PGRMC1 maps to human chromosome X, which contains nearly 153 million base pairs and houses over 1,000 genes. In conjunction with chromosome Y, chromosome X is responsible for sex determination, as an X and a Y chromosome lead to normal male development, while two copies of an X chromosome lead to normal female development. There are a number of conditions related to an abnormal number and combination of sex chromosomes, some of which include Turner's syndrome, color blindness, hemophilia and Duchenne muscular dystrophy.

## REFERENCES

- Gerdes, D., et al. 1998. Cloning and tissue expression of two putative steroid membrane receptors. *Biol. Chem.* 379: 907-911.
- Bernauer, S., et al. 2001. The human membrane progesterone receptor gene: genomic structure and promoter analysis. *DNA Seq.* 12: 13-25.
- Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 300435. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Lösel, R., et al. 2005. Classic and non-classic progesterone receptors are both expressed in human spermatozoa. *Horm. Metab. Res.* 37: 10-14.
- Nousiainen, M., et al. 2006. Phosphoproteome analysis of the human mitotic spindle. *Proc. Natl. Acad. Sci. USA* 103: 5391-5396.
- Hughes, A.L., et al. 2007. DAP-1/PGRMC1 binds and regulates cytochrome P450 enzymes. *Cell Metab.* 5: 143-149.

## CHROMOSOMAL LOCATION

Genetic locus: PGRMC1 (human) mapping to Xq24; Pgrmc1 (mouse) mapping to X A3.3.

## SOURCE

PGRMC1 (12B7) is a mouse monoclonal antibody raised against retinoic acid treated NT2/D1 teratocarcinoma cells of human origin using the cyclophosphamide immunosuppression method.

## PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-135720 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## RESEARCH USE

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

## APPLICATIONS

PGRMC1 (12B7) is recommended for detection of PGRMC1 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); may cross-react with PGRMC1 of mouse origin.

Suitable for use as control antibody for PGRMC1 siRNA (h): sc-76111, PGRMC1 siRNA (m): sc-76112, PGRMC1 shRNA Plasmid (h): sc-76111-SH, PGRMC1 shRNA Plasmid (m): sc-76112-SH, PGRMC1 shRNA (h) Lentiviral Particles: sc-76111-V and PGRMC1 shRNA (m) Lentiviral Particles: sc-76112-V.

Molecular Weight of PGRMC1: 28 kDa.

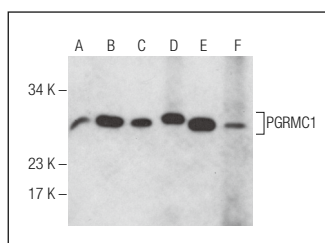
Positive Controls: Hep G2 cell lysate: sc-2227, MCF7 whole cell lysate: sc-2206 or SK-BR-3 cell lysate: sc-2218.

## RECOMMENDED SUPPORT REAGENTS

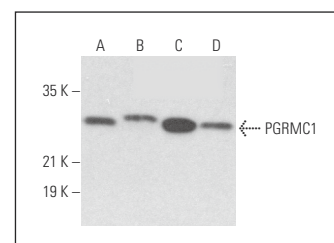
To ensure optimal results, the following support reagents are recommended:

- Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml).
- Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



PGRMC1 (12B7): sc-135720. Western blot analysis of PGRMC1 expression in Hep G2 (A), SK-BR-3 (B) and MCF7 (C) whole cell lysates and rat liver (D), human liver (E) and human kidney (F) tissue extracts.



PGRMC1 (12B7): sc-135720. Western blot analysis of PGRMC1 expression in RT-4 (A), U-251-MG (B), A-431 (C) and NTERA-2 cl.D1 (D) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Peluso, J.J., et al. 2012. Evidence for a genomic mechanism of action for progesterone receptor membrane component-1. *Steroids* 77: 1007-1012.
- Shen, J.J., et al. 2020. Oroxlylin A exerts anticancer effects on human ovarian cancer cells via the PPARγ-dependent reversal of the progesterone receptor membrane component 1/2 expression profile. *Oncol. Rep.* 43: 1309-1318.

## STORAGE

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