

## mPR $\alpha$ (N-15): sc-50111

### BACKGROUND

The steroid progesterone induces the resumption of maturation in oocytes via a nongenomic pathway through binding to a novel membrane progesterin receptor (mPR). This pathway inhibits adenylyl cyclase and reduces intracellular cAMP, and also activates mitogen-activated protein kinase to effect signal transduction pathways. Five distinct groups, designated  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$  and  $\epsilon$ , comprise the mPR gene family. mPR $\alpha$ , also designated progesterin and adipoQ receptor family member VII (PAQR7), consists of an extracellular N-terminus, an intracellular C-terminus and seven transmembrane domains. mPR $\alpha$  is expressed in ovary, testis, placenta, uterus and bladder. mPR $\beta$ , or progesterin and adipoQ receptor family member VIII (PAQR8), consists of eight putative transmembrane regions and an intracellular N-terminus that contains a leucine-rich motif. mPR $\beta$  is a 354 amino acid protein expressed in brain and spinal cord. Both mPR $\alpha$  and mPR $\beta$  may be G protein-coupled receptors and may be involved in oocyte maturation.

### REFERENCES

1. Suzuki, T., Ganesh, S., Agarwala, K.L., Morita, R., Sugimoto, Y., Inazawa, J., Delgado-Escueta, A.V. and Yamakawa, K. 2001. A novel gene in the chromosomal region for juvenile myoclonic epilepsy on 6p12 encodes a brain-specific lysosomal membrane protein. *Biochem. Biophys. Res. Commun.* 288: 626-636.
2. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607779. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Hammes, S.R. 2003. The further redefining of steroid-mediated signaling. *Proc. Natl. Acad. Sci. USA* 100: 2168-2170.
4. Kazeto, Y., Goto-Kazeto, R., Thomas, P. and Trant, J.M. 2005. Molecular characterization of three forms of putative membrane-bound progesterin receptors and their tissue-distribution in channel catfish, *Ictalurus punctatus*. *J. Mol. Endocrinol.* 34: 781-791.
5. Tang, Y.T., Hu, T., Arterburn, M., Boyle, B., Bright, J.M., Emtage, P.C. and Funk, W.D. 2005. PAQR proteins: a novel membrane receptor family defined by an ancient seven-transmembrane pass motif. *J. Mol. Evol.* 61: 372-380.
6. Thomas, P., Dressing, G., Pang, Y., Berg, H., Tubbs, C., Benninghoff, A. and Doughty, K. 2006. Progesterin, estrogen and androgen G protein-coupled receptors in fish gonads. *Steroids* 71: 310-316.

### CHROMOSOMAL LOCATION

Genetic locus: PAQR7 (human) mapping to 1p36.11; Paqr7 (mouse) mapping to 4 D3.

### SOURCE

mPR $\alpha$  (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of mPR $\alpha$  of human origin.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-50111 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

mPR $\alpha$  (N-15) is recommended for detection of mPR $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

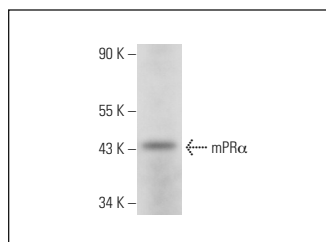
mPR $\alpha$  (N-15) is also recommended for detection of mPR $\alpha$  in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for mPR $\alpha$  siRNA (h): sc-61071, mPR $\alpha$  siRNA (m): sc-61072, mPR $\alpha$  shRNA Plasmid (h): sc-61071-SH, mPR $\alpha$  shRNA Plasmid (m): sc-61072-SH, mPR $\alpha$  shRNA (h) Lentiviral Particles: sc-61071-V and mPR $\alpha$  shRNA (m) Lentiviral Particles: sc-61072-V.

Molecular Weight of mPR $\alpha$ : 40 kDa.

Positive Controls: mouse ovary extract: sc-2404.

### DATA



mPR $\alpha$  (N-15): sc-50111. Western blot analysis of mPR $\alpha$  expression in mouse ovary tissue extract.

### SELECT PRODUCT CITATIONS

1. Gonzalez-Moran, M.G., Gonzalez-Arenas, A., German-Castelan, L. and Camacho-Arroyo, I. 2013. Changes in the content of sex steroid hormone receptors in the growing and regressing ovaries of *Gallus domesticus* during development. *Gen. Comp. Endocrinol.* 189: 51-58.

### STORAGE

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

### RESEARCH USE

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