

mPR α (Y-14): sc-50113

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 adenyl cyclase and reduces intracellular cAMP, and also activates mitogen-activated protein kinase to effect signal transduction pathways. Five distinct groups, designated α , β , γ , δ and ϵ , comprise the mPR gene family. mPR α , 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 α is expressed in ovary, testis, placenta, uterus and bladder. mPR β , 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 β is a 354 amino acid protein expressed in brain and spinal cord. Both mPR α and mPR β may be G protein-coupled receptors and may be involved in oocyte maturation.

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM[™]. 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. Nat. 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 α (Y-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of mPR α of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-50113 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

mPR α (Y-14) is recommended for detection of mPR α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 α (Y-14) is also recommended for detection of mPR α in additional species, including equine, canine, bovine and porcine.

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

Molecular Weight of mPR α : 40 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Labombarda, F., Meffre, D., Delespierre, B., Krivokapic-Blondiaux, S., Chastre, A., Thomas, P., Pang, Y., Lydon, J.P., Gonzalez, S.L., De Nicola, A.F., Schumacher, M. and Guennoun, R. 2010. Membrane progesterone receptors localization in the mouse spinal cord. *Neuroscience* 166: 94-106.

RESEARCH USE

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

PROTOCOLS

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