# RT² Profiler PCR Array (Rotor-Gene® Format)

# Mouse Polycystic Kidney Disease

### Cat. no. 330231 PAMM-168ZR

### For pathway expression analysis

| Format | For use with the following real-time cyclers |
|---|---|
| RT² Profiler PCR Array, Format R | Rotor-Gene Q, other Rotor-Gene cyclers |

## Description

The Mouse Polycystic Kidney Disease RT² Profiler PCR Array profiles the expression of 84 key genes involved in growth of renal cysts, which often lead to end-stage renal disease. Polycystic kidney diseases (PKDs) represent a large group of progressive renal disorders characterized by cystic expansion of the kidneys resulting in progressive kidney enlargement and renal insufficiency. The most common PKDs are inherited as either autosomal dominant or autosomal recessive traits. Studies of autosomal dominant and recessive PKDs converge on molecular mechanisms of cystogenesis, including ciliary abnormalities and intracellular calcium dysregulation that ultimately lead to increased proliferation, apoptosis, and dedifferentiation. Recent advances in understanding the role of signaling molecules, (such as cyclic AMP, calcium, integrins, and bone morphogenetic proteins), as well as angiogenic, differentiation, and mitogenic factors in renal cystogenesis and dysfunction have led to intriguing possibilities for therapeutic intervention. The genes profiled with this array are associated with angiogenic, mitogenic, and inflammatory responses and factors responsible for calcium signaling, primary cilia function, and transcriptional regulation among others. A set of controls present on each array enables data analysis using the ΔΔCT method of relative quantification and assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in polycystic kidney disease with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

## Shipping and storage

RT² Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on

dry ice, or blue ice packs depending on destination and accompanying products.

For long term storage, keep plates at –20°C.

**Note**: Ensure that you have the correct RT² Profiler PCR Array format for your real-time cycler (see table above).

**Note**: Open the package and store the products appropriately immediately on receipt.

## Array layout

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc™ (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance.

## Gene table: RT² Profiler PCR Array

| Position | UniGene | GenBank | Symbol | Description |
|---|---|---|---|---|
| A01 | Mm.7165 | NM_025371 | Acy1 | Aminoacylase 1 |
| A02 | Mm.390617 | NM_153534 | Adcy2 | Adenylate cyclase 2 |
| A03 | Mm.70546 | NM_138305 | Adcy3 | Adenylate cyclase 3 |
| A04 | Mm.288206 | NM_007406 | Adcy7 | Adenylate cyclase 7 |
| A05 | Mm.482244 | NM_001031851 | Agxt2 | Alanine-glyoxylate aminotransferase 2 |
| A06 | Mm.90181 | NM_178713 | Aldh8a1 | Aldehyde dehydrogenase 8 family, member A1 |
| A07 | Mm.439874 | NM_007426 | Angpt2 | Angiopoietin 2 |
| A08 | Mm.305152 | NM_009696 | Apoe | Apolipoprotein E |
| A09 | Mm.2161 | NM_018816 | Apom | Apolipoprotein M |
| A10 | Mm.238213 | NM_009743 | Bcl2l1 | Bcl2-like 1 |
| A11 | Mm.103205 | NM_007553 | Bmp2 | Bone morphogenetic protein 2 |
| A12 | Mm.6813 | NM_007554 | Bmp4 | Bone morphogenetic protein 4 |
| B01 | Mm.595 | NM_007557 | Bmp7 | Bone morphogenetic protein 7 |
| B02 | Mm.4407 | NM_013459 | Cfd | Complement factor D (adipsin) |
| B03 | Mm.167900 | NM_024412 | Clcnka | Chloride channel Ka |
| B04 | Mm.87456 | NM_021386 | Cldn10 | Claudin 10 |
| B05 | Mm.200608 | NM_013492 | Clu | Clusterin |
| B06 | Mm.3819 | NM_007730 | Col12a1 | Collagen, type XII, alpha 1 |
| B07 | Mm.249555 | NM_009930 | Col3a1 | Collagen, type III, alpha 1 |
| B08 | Mm.132238 | NM_001025432 | Crebbp | CREB binding protein |
| B09 | Mm.21013 | NM_008176 | Cxcl1 | Chemokine (C-X-C motif) ligand 1 |
| B10 | Mm.20889 | NM_010012 | Cyp8b1 | Cytochrome P450, family 8, subfamily b, polypeptide 1 |
| B11 | Mm.52265 | NM_138686 | Cys1 | Cystin 1 |
| B12 | Mm.275769 | NM_029723 | Dapl1 | Death associated protein-like 1 |
| C01 | Mm.248464 | NM_133365 | Dnahc5 | Dynein, axonemal, heavy chain 5 |
| C02 | Mm.20388 | NM_007876 | Dpep1 | Dipeptidase 1 (renal) |
| C03 | Mm.14543 | NM_010104 | Edn1 | Endothelin 1 |
| C04 | Mm.103737 | NM_018781 | Egr3 | Early growth response 3 |
| C05 | Mm.297992 | NM_010180 | Fbln1 | Fibulin 1 |
| C06 | Mm.241282 | NM_010197 | Fgf1 | Fibroblast growth factor 1 |
| C07 | Mm.6904 | NM_008010 | Fgfr3 | Fibroblast growth factor receptor 3 |
| C08 | Mm.193099 | NM_010233 | Fn1 | Fibronectin 1 |
| C09 | Mm.248335 | NM_008036 | Fosb | FBJ osteosarcoma oncogene B |
| C10 | Mm.273292 | NM_001081125 | Gli2 | GLI-Kruppel family member GLI2 |
| C11 | Mm.166318 | NM_011824 | Grem1 | Gremlin 1 |
| C12 | Mm.157442 | NM_013547 | Hgd | Homogentisate 1, 2-dioxygenase |
| D01 | Mm.358794 | NM_053176 | Hrg | Histidine-rich glycoprotein |
| D02 | Mm.5079 | NM_008289 | Hsd11b2 | Hydroxysteroid 11-beta dehydrogenase 2 |
| D03 | Mm.4653 | NM_009376 | Ift88 | Intraflagellar transport 88 homolog (Chlamydomonas) |
| D04 | Mm.275742 | NM_010513 | Igf1r | Insulin-like growth factor I receptor |
| D05 | Mm.390726 | NM_145837 | Il17d | Interleukin 17D |
| D06 | Mm.1019 | NM_031168 | Il6 | Interleukin 6 |
| D07 | Mm.329997 | NM_001001309 | Itga8 | Integrin alpha 8 |
| D08 | Mm.275071 | NM_010591 | Jun | Jun oncogene |
| D09 | Mm.2160 | NM_023125 | Kng1 | Kininogen 1 |
| D10 | Mm.248615 | NM_010705 | Lgals3 | Lectin, galactose binding, soluble 3 |
| D11 | Mm.158200 | NM_019977 | Miox | Myo-inositol oxygenase |
| D12 | Mm.383181 | NM_008437 | Napsa | Napsin A aspartic peptidase |
| E01 | Mm.135266 | NM_008711 | Nog | Noggin |
| E02 | Mm.153432 | NM_178591 | Nrg1 | Neuregulin 1 |
| E03 | Mm.266341 | NM_010939 | Nrp2 | Neuropilin 2 |
| E04 | Mm.33496 | NM_008746 | Ntrk3 | Neurotrophic tyrosine kinase, receptor, type 3 |
| E05 | Mm.46336 | NM_054049 | Osr2 | Odd-skipped related 2 (Drosophila) |
| E06 | Mm.42026 | NM_011027 | P2rx7 | Purinergic receptor P2X, ligand-gated ion channel, 7 |
| E07 | Mm.332387 | NM_018764 | Pcdh7 | Protocadherin 7 |
| E08 | Mm.266867 | NM_011044 | Pck1 | Phosphoenolpyruvate carboxykinase 1, cytosolic |
| E09 | Mm.221403 | NM_011058 | Pdgfra | Platelet derived growth factor receptor, alpha polypeptide |

| Position | UniGene | GenBank | Symbol | Description |
|---|---|---|---|---|
| E10 | Mm.260521 | NM_008839 | Pik3ca | Phosphatidylinositol 3-kinase, catalytic, alpha polypeptide |
| E11 | Mm.259333 | NM_001024955 | Pik3r1 | Phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha) |
| E12 | Mm.290442 | NM_013630 | Pkd1 | Polycystic kidney disease 1 homolog |
| F01 | Mm.6442 | NM_008861 | Pkd2 | Polycystic kidney disease 2 |
| F02 | Mm.249253 | NM_153179 | Pkhd1 | Polycystic kidney and hepatic disease 1 |
| F03 | Mm.4675 | NM_001082531 | Pla2g2a | Phospholipase A2, group IIA (platelets, synovial fluid) |
| F04 | Mm.207496 | NM_008855 | Prkcb | Protein kinase C, beta |
| F05 | Mm.10516 | NM_011169 | Prlr | Prolactin receptor |
| F06 | Mm.4630 | NM_008964 | Ptger2 | Prostaglandin E receptor 2 (subtype EP2) |
| F07 | Mm.30424 | NM_011196 | Ptger3 | Prostaglandin E receptor 3 (subtype EP3) |
| F08 | Mm.292547 | NM_011198 | Ptgs2 | Prostaglandin-endoperoxide synthase 2 |
| F09 | Mm.41639 | NM_001081306 | Ptprz1 | Protein tyrosine phosphatase, receptor type Z, polypeptide 1 |
| F10 | Mm.57199 | NM_009050 | Ret | Ret proto-oncogene |
| F11 | Mm.757 | NM_016802 | Rhoa | Ras homolog gene family, member A |
| F12 | Mm.103584 | NM_021544 | Scn5a | Sodium channel, voltage-gated, type V, alpha |
| G01 | Mm.483839 | NM_145947 | Slc26a7 | Solute carrier family 26, member 7 |
| G02 | Mm.260137 | NM_145559 | Slc2a9 | Solute carrier family 2 (facilitated glucose transporter), member 9 |
| G03 | Mm.441070 | NM_001033227 | Slc5a10 | Solute carrier family 5 (sodium/glucose cotransporter), member 10 |
| G04 | Mm.330986 | NM_011896 | Spry1 | Sprouty homolog 1 (Drosophila) |
| G05 | Mm.3992 | NM_009368 | Tgfb3 | Transforming growth factor, beta 3 |
| G06 | Mm.143766 | NM_020626 | Tmem27 | Transmembrane protein 27 |
| G07 | Mm.121878 | NM_024427 | Tpm1 | Tropomyosin 1, alpha |
| G08 | Mm.10826 | NM_009470 | Umod | Uromodulin |
| G09 | Mm.282184 | NM_009505 | Vegfa | Vascular endothelial growth factor A |
| G10 | Mm.25670 | NM_028572 | Vgll3 | Vestigial like 3 (Drosophila) |
| G11 | Mm.22182 | NM_009519 | Wnt11 | Wingless-related MMTV integration site 11 |
| G12 | Mm.389339 | NM_144783 | Wt1 | Wilms tumor 1 homolog |
| H01 | Mm.328431 | NM_007393 | Actb | Actin, beta |
| H02 | Mm.163 | NM_009735 | B2m | Beta-2 microglobulin |
| H03 | Mm.343110 | NM_008084 | Gapdh | Glyceraldehyde-3-phosphate dehydrogenase |
| H04 | Mm.3317 | NM_010368 | Gusb | Glucuronidase, beta |
| H05 | Mm.2180 | NM_008302 | Hsp90ab1 | Heat shock protein 90 alpha (cytosolic), class B member 1 |
| H06 | N/A | SA_00106 | MGDC | Mouse Genomic DNA Contamination |
| H07 | N/A | SA_00104 | RTC | Reverse Transcription Control |
| H08 | N/A | SA_00104 | RTC | Reverse Transcription Control |
| H09 | N/A | SA_00104 | RTC | Reverse Transcription Control |
| H10 | N/A | SA_00103 | PPC | Positive PCR Control |
| H11 | N/A | SA_00103 | PPC | Positive PCR Control |
| H12 | N/A | SA_00103 | PPC | Positive PCR Control |

## Related products

For optimal performance, RT² Profiler PCR Arrays should be used together with the RT² First Strand Kit for cDNA synthesis and RT² SYBR® Green qPCR Mastermixes for PCR.

| Product | Contents | Cat. no. |
|---|---|---|
| RT² First Strand Kit (12) | Enzymes and reagents for cDNA synthesis | 330401 |
| RT² SYBR Green ROX™ FAST Mastermix (2)* | For 2 x 96 assays in 96-well plates; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers | 330620 |

* Larger kit sizes available; please inquire.

RT² Profiler PCR Array products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.



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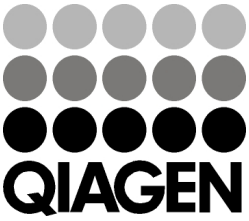


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