RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Polycystic Kidney Disease

Cat. no. 330231 PARN-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 Rat 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	Rn.3679	NM_001005383	Acy1	Aminoacylase 1
A02	Rn.10731	NM_031007	Adcy2	Adenylate cyclase 2 (brain)
A03	Rn.87800	NM_130779	Adcy3	Adenylate cyclase 3
A04	Rn.161712	NM_053396	Adcy7	Adenylate cyclase 7
A05	Rn.1874	NM_031835	Agxt2	Alanine-glyoxylate aminotransferase 2
A06	Rn.44523	XM_001065122	Aldh8a1	Aldehyde dehydrogenase 8 family, member A1
A07	Rn.138360	NM_134454	Angpt2	Angiopoietin 2
A08	Rn.32351	NM_138828	Apoe	Apolipoprotein E
A09	Rn.262	NM_019373	Apom	Apolipoprotein M
A10	Rn.10323	NM_031535	Bcl2l1	Bcl2-like 1
A11	Rn.90931	NM_017178	Bmp2	Bone morphogenetic protein 2
A12	Rn.10318	NM_012827	Bmp4	Bone morphogenetic protein 4
B01	Rn.18030	XM_342591	Bmp7	Bone morphogenetic protein 7
B02	Rn.16172	NM_001077642	Cfd	Complement factor D (adipsin)
B03	Rn.88871	NM_053327	Clcnka	Chloride channel Ka
B04	Rn.99994	NM_001106058	Cldn10	Claudin 10
B05	Rn.1780	NM_053021	Clu	Clusterin
B06	Rn.11218	XM_243912	Col12a1	Collagen, type XII, alpha 1
B07	Rn.3247	NM_032085	Col3a1	Collagen, type III, alpha 1
B08	Rn.108128	NM_133381	Crebbp	CREB binding protein
B09	Rn.10907	NM_030845	Cxcl1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
B10	Rn.23013	NM_031241	Cyp8b1	Cytochrome P450, family 8, subfamily b, polypeptide 1
B11	Rn.17018	NM_001109597	Cys1	Cystin 1
B12	Rn.23556	NM_001108582	Dapl1	Death associated protein-like 1
C01	Rn.6051	NM_053591	Dpep1	Dipeptidase 1 (renal)
C02	Rn.10918	NM_012548	Edn1	Endothelin 1
C03	Rn.44371	NM_017086	Egr3	Early growth response 3
C04	Rn.9375	NM_001127547	Fbln1	Fibulin 1
C05	Rn.88013	NM_012846	Fgf1	Fibroblast growth factor 1
C06	Rn.23671	NM_053429	Fgfr3	Fibroblast growth factor receptor 3
C07	Rn.1604	NM_019143	Fn1	Fibronectin 1
C08	Rn.10962	NM_001013146	FosB	FBJ osteosarcoma oncogene B
C09	Rn.38778	NM_001107169	Gli2	GLI family zinc finger 2
C10	Rn.42929	NM_019282	Grem1	Gremlin 1, cysteine knot superfamily, homolog (Xenopus laevis)
C11	Rn.24631	NM_001012145	Hgd	Homogentisate 1, 2-dioxygenase
C12	Rn.16100	NM_133428	Hrg	Histidine-rich glycoprotein
D01	Rn.10186	NM_017081	Hsd11b2	Hydroxysteroid 11-beta dehydrogenase 2
D02	Rn.132110	NM_001107266	Ift88	Intraflagellar transport 88 homolog (Chlamydomonas)
D03	Rn.10957	NM_052807	Igf1r	Insulin-like growth factor 1 receptor
D04	Rn.17127	XM_001079675	Il17d	Interleukin 17D
D05	Rn.9873	NM_012589	Il6	Interleukin 6
D06	Rn.69726	NM_001173972	Itga8	Integrin, alpha 8
D07	Rn.93714	NM_021835	Jun	Jun oncogene
D08	Rn.128333	NM_012696	Kng1	Kininogen 1
D09	Rn.764	NM_031832	Lgals3	Lectin, galactoside-binding, soluble, 3
D10	Rn.19959	NM_145771	Miox	Myo-inositol oxygenase
D11	Rn.17097	NM_031670	Napsa	Napsin A aspartic peptidase
D12	Rn.10154	NM_012990	Nog	Noggin
E01	Rn.37438	NM_031588	Nrg1	Neuregulin 1
E02	Rn.10816	NM_030869	Nrp2	Neuropilin 2
E03	Rn.9963	NM_019248	Ntrk3	Neurotrophic tyrosine kinase, receptor, type 3
E04	Rn.13228	NM_001012118	Osr2	Odd-skipped related 2 (Drosophila)
E05	Rn.10510	NM_019256	P2rx7	Purinergic receptor P2X, ligand-gated ion channel, 7
E06	Rn.150477	NM_001004087	Pcdh7	Protocadherin 7
E07	Rn.104376	NM_198780	Pck1	Phosphoenolpyruvate carboxykinase 1 (soluble)
E08	Rn.55127	NM_012802	Pdgfra	Platelet derived growth factor receptor, alpha polypeptide
E09	Rn.44193	NM_133399	Pik3ca	Phosphoinositide-3-kinase, catalytic, alpha polypeptide

Position	UniGene	GenBank	Symbol	Description
E10	Rn.10599	NM_013005	Pik3r1	Phosphoinositide-3-kinase, regulatory subunit 1 (alpha)
E11	Rn.127770	XM_002724589	Pkd1	Polycystic kidney disease 1 homolog (human)
E12	Rn.198353	XM_573552	Pkd2	Polycystic kidney disease 2
F01	Rn.220756	XM_236979	Pkhd1	Polycystic kidney and hepatic disease 1 homolog (human)
F02	Rn.11346	NM_031598	Pla2g2a	Phospholipase A2, group IIA (platelets, synovial fluid)
F03	Rn.91118	NM_012713	Prkcb	Protein kinase C, beta
F04	Rn.9757	NM_012630	Prlr	Prolactin receptor
F05	Rn.10264	NM_031088	Ptger2	Prostaglandin E receptor 2 (subtype EP2)
F06	Rn.10361	NM_012704	Ptger3	Prostaglandin E receptor 3 (subtype EP3)
F07	Rn.44369	NM_017232	Ptgs2	Prostaglandin-endoperoxide synthase 2
F08	Rn.10088	NM_013080	Ptprz1	Protein tyrosine phosphatase, receptor-type, Z polypeptide 1
F09	Rn.93200	NM_012643	Ret	Ret proto-oncogene
F10	Rn.107401	NM_057132	Rhoa	Ras homolog gene family, member A
F11	Rn.32074	NM_013125	Scn5a	Sodium channel, voltage-gated, type V, alpha subunit
F12	Rn.109484	NM_001106638	Slc26a7	Solute carrier family 26, member 7
G01	Rn.92551	NM_001191551	Slc2a9	Solute carrier family 2 (facilitated glucose transporter), member 9
G02	Rn.163101	NM_001107007	Slc5a10	Solute carrier family 5 (sodium/glucose cotransporter), member 10
G03	Rn.221903	NM_001106427	Spry1	Sprouty homolog 1, antagonist of FGF signaling (Drosophila)
G04	Rn.1671	NM_001032397	Tcf21	Transcription factor 21
G05	Rn.7018	NM_013174	Tgfb3	Transforming growth factor, beta 3
G06	Rn.32298	NM_020976	Tmem27	Transmembrane protein 27
G07	Rn.87540	NM_019131	Tpm1	Tropomyosin 1, alpha
G08	Rn.31982	NM_017082	Umod	Uromodulin
G09	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
G10	Rn.55941	NM_080401	Wnt11	Wingless-type MMTV integration site family, member 11
G11	Rn.92531	NM_031534	Wt1	Wilms tumor 1
G12	Rn.214576	NM_001013181	Zbtb16	Zinc finger and BTB domain containing 16
H01	Rn.94978	NM_031144	Actb	Actin, beta
H02	Rn.1868	NM_012512	B2m	Beta-2 microglobulin
H03	Rn.47	NM_012583	Hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H06	N/A	U26919	RGDC	Rat 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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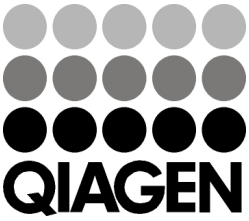

Sample & Assay Technologies