

RT² Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

Mouse Polycystic Kidney Disease

Cat. no. 330231 PAMM-168ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² Profiler PCR Array, Format A	Applied Biosystems® models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad® models iCycler®, iQ™ 5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf® Mastercycler® ep realplex models 2, 2s, 4, 4s; Stratagene® models Mx3005P®, Mx3000P®; Takara TP-800
RT ² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT ² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT ² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT ² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT ² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT ² Profiler PCR Array, Format H	Fluidigm® BioMark™



Sample & Assay Technologies

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 $\Delta\Delta CT$ 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 formats A, C, D, E, F, and G are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products. RT² Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

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 (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT² Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	Acy1	Adcy2	Adcy3	Adcy7	Agxt2	Aldh8a1	Angptf2	Apoe	Apom	Bcl2l1	Bmp2	Bmp4
B	Bmp7	Cfd	Clcnka	Cldn10	Clu	Col12a1	Col3a1	Crebbp	Cxcl1	Cyp8b1	Cys1	Dapl1
C	Dnahc5	Dpep1	Edn1	Egr3	Fbln1	Fgf1	Fgfr3	Fn1	Fosb	Gli2	Grem1	Hgd
D	Hrg	Hsd11b2	Ifi88	Igf1r	Il17d	Il6	Itga8	Jun	Kng1	Lgals3	Miox	Napsa
E	Nog	Nrg1	Nrp2	Ntrk3	Oar2	P2rx7	Pcdh7	Pck1	Pdgfra	Plk3ca	Plk3r1	Plkl1
F	Plkl2	Plkl1	Pla2g2a	Prkcb	Prlr	Plger2	Plger3	Plgs2	Plprz1	Ret	Rhoa	Scn5a
G	Slc26a7	Slc2a9	Slc5a10	Spry1	Tgfb3	Tmem27	Tpm1	Umod	Vegfa	Vgll3	Wnt11	Wt1
H	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	RTC	RTC	RTC	PPC	PPC	PPC

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	Angptf2	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	Ifi88	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

Position	UniGene	GenBank	Symbol	Description
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
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.
RT ² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT ² SYBR Green qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with real-time cyclers that do not require a reference dye, including: Bio-Rad models CFX96, CFX384, DNA Engine Opticon 2; Bio-Rad/MJ Research Chromo4; Roche LightCycler 480 (96-well and 384-well); all other cyclers	330500
RT ² SYBR Green ROX [™] qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Applied Biosystems models 5700, 7000, 7300, 7500 [Standard and FAST], 7700, 7900HT 96-well block [Standard and FAST] and 384-well block, StepOnePlus; Eppendorf Mastercycler ep realplex models 2, 2S, 4, 4S; Stratagene models Mx3000P, Mx3005P, Mx4000; Takara TP-800	330520
RT ² SYBR Green Fluor qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Bio-Rad models iCycler, iQ5, MyiQ, MyiQ2	330510

* 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.

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