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

Mouse Nephrotoxicity

Cat. no. 330231 PAMM-094ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² 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
RT² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT² Profiler PCR Array, Format H	Fluidigm® BioMark™

QIAGEN®

Sample & Assay Technologies

Description

The Mouse Nephrotoxicity RT² Profiler PCR Array profiles the expression of 84 key genes implicated as potential biomarkers of kidney toxicity. Minimizing toxicity remains one of the major barriers to bringing a drug to market. The crucial role of the kidney in drug excretion makes it one of the major organs evoking drug-related toxic responses and an important target of toxicological studies. Genes that consistently exhibit increased or decreased expression during these toxic responses in model systems serve as markers to predict potential adverse clinical outcomes. Kidney excretion within the nephron starts with blood filtration by the glomerulus. The filtrate then moves through the proximal tubule (for re-absorption of important compounds), the loop of Henle (for urine concentration), the distal tubule, and finally the collecting duct (for urine concentration and removal). Drug-induced nephrotoxicity research focuses on proximal tubule toxicity, where the majority of drug metabolite re-absorption occurs. The array includes genes that show expression differences when exposed to a wide variety of known nephrotoxic drugs. The organization of genes by their predicted direction of expression change eases data analysis. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in nephrotoxic response 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	A2m	Aass	Abcb1a	Abcc2	Aldh1a1	Angptl4	Anxa5	Atf3	Bhmt	Bmp1	Bmp4	Btg2
B	Calb1	Cat	Ccl3	Ccnd1	Ccng1	Ccs	Cd24a	Cd44	Cdkn1a	Clu	Cp	Cst3
C	Ctss	Cxcl10	Cxcl3	Cyp2c54	Cyp2d22	Cyr61	Egf	Fgb	Fmo2	Fn1	G6pc	G6pdx
D	Gadd45a	Gamt	Gatm	Gc	Ghr	Glul	Gpnmb	Gpx8	Gstk1	Gstp1	Havcr1	Hmox1
E	Hmox2	Hsp90aa1	Idh1	Igfbp1	Igfbp3	Ipmk	Klk1	Lcn2	Lgals3	Mcm6	Mgp	Mt1
F	Nox4	Nphs2	Nqo1	Oat	Odc1	Rgn	Rtn4	Scd1	Slc22a1	Slc22a5	Slc22a6	Socs3
G	Sod2	Sod3	Spp1	Sprr1a	Timp1	Tmsb10	Tnfrsf12a	Uchl1	Ugt1a1	Ugt1a6a	Vcam1	Vim
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.30151	NM_175628	A2m	Alpha-2-macroglobulin
A02	Mm.18651	NM_013930	Aass	Aminoadipate-semialdehyde synthase
A03	Mm.207354	NM_011076	Abcb1a	ATP-binding cassette, sub-family B (MDR/TAP), member 1A
A04	Mm.39054	NM_013806	Abcc2	ATP-binding cassette, sub-family C (CFTR/MRP), member 2
A05	Mm.250866	NM_013467	Aldh1a1	Aldehyde dehydrogenase family 1, subfamily A1
A06	Mm.196189	NM_020581	Angptl4	Angiopoietin-like 4
A07	Mm.1620	NM_009673	Anxa5	Annexin A5
A08	Mm.2706	NM_007498	Atf3	Activating transcription factor 3
A09	Mm.329582	NM_016668	Bhmt	Betaine-homocysteine methyltransferase
A10	Mm.27757	NM_009755	Bmp1	Bone morphogenetic protein 1
A11	Mm.6813	NM_007554	Bmp4	Bone morphogenetic protein 4
A12	Mm.392646	NM_007570	Btg2	B-cell translocation gene 2, anti-proliferative
B01	Mm.277665	NM_009788	Calb1	Calbindin 1
B02	Mm.4215	NM_009804	Cat	Catalase
B03	Mm.1282	NM_011337	Ccl3	Chemokine (C-C motif) ligand 3
B04	Mm.273049	NM_007631	Ccnd1	Cyclin D1
B05	Mm.2103	NM_009831	Ccng1	Cyclin G1
B06	Mm.434411	NM_016892	Ccs	Copper chaperone for superoxide dismutase
B07	Mm.29742	NM_009846	Cd24a	CD24a antigen
B08	Mm.423621	NM_009851	Cd44	CD44 antigen
B09	Mm.195663	NM_007669	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)
B10	Mm.200608	NM_013492	Clu	Clusterin
B11	Mm.13787	NM_007752	Cp	Ceruloplasmin
B12	Mm.4263	NM_009976	Cst3	Cystatin C
C01	Mm.3619	NM_021281	Ctss	Cathepsin S
C02	Mm.877	NM_021274	Cxcl10	Chemokine (C-X-C motif) ligand 10
C03	Mm.244289	NM_203320	Cxcl3	Chemokine (C-X-C motif) ligand 3
C04	Mm.379575	NM_206537	Cyp2c54	Cytochrome P450, family 2, subfamily c, polypeptide 54
C05	Mm.474216	NM_019823	Cyp2d22	Cytochrome P450, family 2, subfamily d, polypeptide 22
C06	Mm.1231	NM_010516	Cyr61	Cysteine rich protein 61
C07	Mm.252481	NM_010113	Egf	Epidermal growth factor
C08	Mm.30063	NM_181849	Fgb	Fibrinogen beta chain
C09	Mm.10929	NM_018881	Fmo2	Flavin containing monooxygenase 2
C10	Mm.193099	NM_010233	Fn1	Fibronectin 1
C11	Mm.18064	NM_008061	G6pc	Glucose-6-phosphatase, catalytic
C12	Mm.27210	NM_008062	G6pdx	Glucose-6-phosphate dehydrogenase X-linked
D01	Mm.72235	NM_007836	Gadd45a	Growth arrest and DNA-damage-inducible 45 alpha
D02	Mm.7329	NM_010255	Gamt	Guanidinoacetate methyltransferase
D03	Mm.29975	NM_025961	Gatm	Glycine amidinotransferase (L-arginine:glycine amidinotransferase)
D04	Mm.196595	NM_008096	Gc	Group specific component
D05	Mm.3986	NM_010284	Ghr	Growth hormone receptor
D06	Mm.210745	NM_008131	Glul	Glutamate-ammonia ligase (glutamine synthetase)
D07	Mm.302602	NM_053110	Gpnmb	Glycoprotein (transmembrane) nmb
D08	Mm.12715	NM_027127	Gpx8	Glutathione peroxidase 8 (putative)
D09	Mm.267014	NM_029555	Gstk1	Glutathione S-transferase kappa 1

Position	UniGene	GenBank	Symbol	Description
D10	Mm.299292	NM_013541	Gstp1	Glutathione S-transferase, pi 1
D11	Mm.17771	NM_134248	Havcr1	Hepatitis A virus cellular receptor 1
D12	Mm.276389	NM_010442	Hmox1	Heme oxygenase (decycling) 1
E01	Mm.272866	NM_010443	Hmox2	Heme oxygenase (decycling) 2
E02	Mm.1843	NM_010480	Hsp90aa1	Heat shock protein 90, alpha (cytosolic), class A member 1
E03	Mm.9925	NM_010497	Idh1	Isocitrate dehydrogenase 1 (NADP+), soluble
E04	Mm.21300	NM_008341	Igfbp1	Insulin-like growth factor binding protein 1
E05	Mm.29254	NM_008343	Igfbp3	Insulin-like growth factor binding protein 3
E06	Mm.245867	NM_027184	Ipmk	Inositol polyphosphate multikinase
E07	Mm.142722	NM_010639	Klk1	Kallikrein 1
E08	Mm.9537	NM_008491	Lcn2	Lipocalin 2
E09	Mm.248615	NM_010705	Lgals3	Lectin, galactose binding, soluble 3
E10	Mm.4933	NM_008567	Mcm6	Minichromosome maintenance deficient 6 (MIS5 homolog, S. pombe) (S. cerevisiae)
E11	Mm.243085	NM_008597	Mgp	Matrix Gla protein
E12	Mm.192991	NM_013602	Mt1	Metallothionein 1
F01	Mm.31748	NM_015760	Nox4	NADPH oxidase 4
F02	Mm.289099	NM_130456	Nphs2	Nephrosis 2 homolog, podocin (human)
F03	Mm.252	NM_008706	Nqo1	NAD(P)H dehydrogenase, quinone 1
F04	Mm.13694	NM_016978	Oat	Ornithine aminotransferase
F05	Mm.34102	NM_013614	Odc1	Ornithine decarboxylase, structural 1
F06	Mm.2118	NM_009060	Rgn	Regucalcin
F07	Mm.192580	NM_194053	Rtn4	Reticulon 4
F08	Mm.267377	NM_009127	Scd1	Stearoyl-Coenzyme A desaturase 1
F09	Mm.594	NM_009202	Slc22a1	Solute carrier family 22 (organic cation transporter), member 1
F10	Mm.42253	NM_011396	Slc22a5	Solute carrier family 22 (organic cation transporter), member 5
F11	Mm.30090	NM_008766	Slc22a6	Solute carrier family 22 (organic anion transporter), member 6
F12	Mm.3468	NM_007707	Socs3	Suppressor of cytokine signaling 3
G01	Mm.290876	NM_013671	Sod2	Superoxide dismutase 2, mitochondrial
G02	Mm.2407	NM_011435	Sod3	Superoxide dismutase 3, extracellular
G03	Mm.288474	NM_009263	Spp1	Secreted phosphoprotein 1
G04	Mm.331191	NM_009264	Sprr1a	Small proline-rich protein 1A
G05	Mm.8245	NM_011593	Timp1	Tissue inhibitor of metalloproteinase 1
G06	Mm.3532	NM_025284	Tmsb10	Thymosin, beta 10
G07	Mm.28518	NM_013749	Tnfrsf12a	Tumor necrosis factor receptor superfamily, member 12a
G08	Mm.29807	NM_011670	Uchl1	Ubiquitin carboxy-terminal hydrolase L1
G09	Mm.300095	NM_201645	Ugt1a1	UDP glucuronosyltransferase 1 family, polypeptide A1
G10	Mm.466859	NM_145079	Ugt1a6a	UDP glucuronosyltransferase 1 family, polypeptide A6A
G11	Mm.76649	NM_011693	Vcam1	Vascular cell adhesion molecule 1
G12	Mm.268000	NM_011701	Vim	Vimentin
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 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
RT² 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
RT² 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

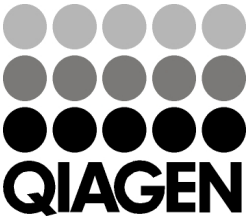
* Larger kit sizes available; please inquire.

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.

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.

www.qiagen.com

Australia ▪ 1-800-243-800
Austria ▪ 0800/281010
Belgium ▪ 0800-79612
Brazil ▪ 0800-557779
Canada ▪ 800-572-9613
China ▪ 8621-3865-3865
Denmark ▪ 80-885945
Finland ▪ 0800-914416
France ▪ 01-60-920-930
Germany ▪ 02103-29-12000
Hong Kong ▪ 800 933 965
Ireland ▪ 1800 555 049
Italy ▪ 800-787980
Japan ▪ 03-6890-7300
Korea (South) ▪ 080-000-7145
Luxembourg ▪ 8002 2076
Mexico ▪ 01-800-7742-436
The Netherlands ▪ 0800 0229592
Norway ▪ 800-18859
Singapore ▪ 1800-742-4368
Spain ▪ 91-630-7050
Sweden ▪ 020-790282
Switzerland ▪ 055-254-22-11
UK ▪ 01293-422-911
USA ▪ 800-426-8157



Sample & Assay Technologies