

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

Human Hepatotoxicity

Cat. no. 330231 PAHS-093ZA

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 Human Hepatotoxicity RT² Profiler PCR Array profiles the expression of 84 key genes implicated as potential biomarkers of liver toxicity. Minimizing toxicity remains one of the major barriers to bringing a drug to market. The crucial role of the liver in drug metabolism 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. This array compiles the most relevant potential biomarkers for five major drug-induced hepatotoxic diseases including cholestasis, steatosis, phospholipidosis, non-genotoxic hepatocarcinogenicity and necrosis, as well as generalized hepatotoxicity. 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 hepatotoxic 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	ABCB1	ABCB11	ABCB4	ABCC2	ABCC3	ALDOA	APEX1	ASAH1	ATP8B1	AVPR1A	BHMT	BTG2
B	CA3	CASP3	CCNG1	CD36	CD68	CDC14B	CDKN1A	COL4A1	CRYL1	CXCL12	CYP1A2	DDIT4L
C	DDX39A	DNAJB11	DNAJC3	FABP1	FADS1	FAM158A	FASN	FMO1	FXC1	GADD45A	GCLC	GSR
D	HAO2	HMOX1	HPN	HYOU1	ICAM1	IGFALS	IL6ST	IPO4	KIAA1370	KRT18	KRT8	L2HGDH
E	LGR5	LPL	LSS	MAOB	MAP3K6	MBL2	MCM10	MLXPL	MRPS18B	NQO1	NUS1	OSMR
F	OSTalpha	PDYN	PLA2G12A	PPARA	PSME3	PYGL	RB1	RDX	RHBG	S100A8	SCD	SERPINA3
G	SERPINE1	SKIL	SLC17A3	SLC2A3	SLC39A6	SREBF1	TAGLN	THRSP	TMEM2	TNFRD1	WIP1	YRDC
H	ACTB	B2M	GAPDH	HRPT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.489033	NM_000927	ABCB1	ATP-binding cassette, sub-family B (MDR/TAP), member 1
A02	Hs.658439	NM_003742	ABCB11	ATP-binding cassette, sub-family B (MDR/TAP), member 11
A03	Hs.654403	NM_000443	ABCB4	ATP-binding cassette, sub-family B (MDR/TAP), member 4
A04	Hs.368243	NM_000392	ABCC2	ATP-binding cassette, sub-family C (CFTR/MRP), member 2
A05	Hs.463421	NM_003786	ABCC3	ATP-binding cassette, sub-family C (CFTR/MRP), member 3
A06	Hs.513490	NM_000034	ALDOA	Aldolase A, fructose-bisphosphate
A07	Hs.73722	NM_080649	APEX1	APEX nuclease (multifunctional DNA repair enzyme) 1
A08	Hs.527412	NM_004315	ASAH1	N-acylsphingosine amidohydrolase (acid ceramidase) 1
A09	Hs.216623	NM_005603	ATP8B1	ATPase, aminophospholipid transporter, class I, type 8B, member 1
A10	Hs.2131	NM_000706	AVPR1A	Arginine vasopressin receptor 1A
A11	Hs.80756	NM_001713	BHMT	Betaine-homocysteine S-methyltransferase
A12	Hs.519162	NM_006763	BTG2	BTG family, member 2
B01	Hs.82129	NM_005181	CA3	Carbonic anhydrase III, muscle specific
B02	Hs.141125	NM_004346	CASP3	Caspase 3, apoptosis-related cysteine peptidase
B03	Hs.79101	NM_004060	CCNG1	Cyclin G1
B04	Hs.120949	NM_000072	CD36	CD36 molecule (thrombospondin receptor)
B05	Hs.647419	NM_001251	CD68	CD68 molecule
B06	Hs.40582	NM_003671	CDC14B	CDC14 cell division cycle 14 homolog B (S. cerevisiae)
B07	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
B08	Hs.17441	NM_001845	COL4A1	Collagen, type IV, alpha 1
B09	Hs.370703	NM_015974	CRYL1	Crystallin, lambda 1
B10	Hs.522891	NM_000609	CXCL12	Chemokine (C-X-C motif) ligand 12
B11	Hs.1361	NM_000761	CYP1A2	Cytochrome P450, family 1, subfamily A, polypeptide 2
B12	Hs.480378	NM_145244	DDIT4L	DNA-damage-inducible transcript 4-like
C01	Hs.311609	NM_005804	DDX39A	DEAD (Asp-Glu-Ala-Asp) box polypeptide 39A
C02	Hs.317192	NM_016306	DNAJB11	DnaJ (Hsp40) homolog, subfamily B, member 11
C03	Hs.59214	NM_006260	DNAJC3	DnaJ (Hsp40) homolog, subfamily C, member 3
C04	Hs.380135	NM_001443	FABP1	Fatty acid binding protein 1, liver
C05	Hs.503546	NM_013402	FADS1	Fatty acid desaturase 1
C06	Hs.271614	NM_016049	FAM158A	Family with sequence similarity 158, member A
C07	Hs.83190	NM_004104	FASN	Fatty acid synthase
C08	Hs.1424	NM_002021	FMO1	Flavin containing monooxygenase 1
C09	Hs.54943	NM_012192	FXC1	Fracture callus 1 homolog (rat)
C10	Hs.80409	NM_001924	GADD45A	Growth arrest and DNA-damage-inducible, alpha
C11	Hs.654465	NM_001498	GCLC	Glutamate-cysteine ligase, catalytic subunit
C12	Hs.271510	NM_000637	GSR	Glutathione reductase
D01	Hs.659767	NM_016527	HAO2	Hydroxyacid oxidase 2 (long chain)
D02	Hs.517581	NM_002133	HMOX1	Heme oxygenase (decycling) 1
D03	Hs.182385	NM_002151	HPN	Hepsin
D04	Hs.277704	NM_006389	HYOU1	Hypoxia up-regulated 1
D05	Hs.643447	NM_000201	ICAM1	Intercellular adhesion molecule 1
D06	Hs.839	NM_004970	IGFALS	Insulin-like growth factor binding protein, acid labile subunit
D07	Hs.532082	NM_002184	IL6ST	Interleukin 6 signal transducer (gp130, oncostatin M receptor)
D08	Hs.411865	NM_024658	IPO4	Importin 4
D09	Hs.152385	NM_019600	KIAA1370	KIAA1370

Position	UniGene	GenBank	Symbol	Description
D10	Hs.406013	NM_000224	KRT18	Keratin 18
D11	Hs.533782	NM_002273	KRT8	Keratin 8
D12	Hs.256034	NM_024884	L2HGDH	L-2-hydroxyglutarate dehydrogenase
E01	Hs.658889	NM_003667	LGR5	Leucine-rich repeat containing G protein-coupled receptor 5
E02	Hs.180878	NM_000237	LPL	Lipoprotein lipase
E03	Hs.596543	NM_002340	LSS	Lanosterol synthase (2,3-oxidosqualene-lanosterol cyclase)
E04	Hs.654473	NM_000898	MAOB	Monoamine oxidase B
E05	Hs.194694	NM_004672	MAP3K6	Mitogen-activated protein kinase kinase kinase 6
E06	Hs.499674	NM_000242	MBL2	Mannose-binding lectin (protein C) 2, soluble
E07	Hs.198363	NM_182751	MCM10	Minichromosome maintenance complex component 10
E08	Hs.647055	NM_032951	MLXIPL	MLX interacting protein-like
E09	Hs.655329	NM_014046	MRPS18B	Mitochondrial ribosomal protein S18B
E10	Hs.406515	NM_000903	NQO1	NAD(P)H dehydrogenase, quinone 1
E11	Hs.289008	NM_138459	NUS1	Nuclear undecaprenyl pyrophosphate synthase 1 homolog (<i>S. cerevisiae</i>)
E12	Hs.120658	NM_003999	OSMR	Oncostatin M receptor
F01	Hs.630585	NM_152672	OSTalpha	Organic solute transporter alpha
F02	Hs.22584	NM_024411	PDYN	Prodynorphin
F03	Hs.389452	NM_030821	PLA2G12A	Phospholipase A2, group XIIA
F04	Hs.103110	NM_005036	PPARA	Peroxisome proliferator-activated receptor alpha
F05	Hs.152978	NM_176863	PSME3	Proteasome (prosome, macropain) activator subunit 3 (PA28 gamma; Ki)
F06	Hs.282417	NM_002863	PYGL	Phosphorylase, glycogen, liver
F07	Hs.408528	NM_000321	RB1	Retinoblastoma 1
F08	Hs.263671	NM_002906	RDX	Radixin
F09	Hs.131835	NM_020407	RHBG	Rh family, B glycoprotein (gene/pseudogene)
F10	Hs.416073	NM_002964	S100A8	S100 calcium binding protein A8
F11	Hs.558396	NM_005063	SCD	Stearoyl-CoA desaturase (delta-9-desaturase)
F12	Hs.534293	NM_001085	SERPINA3	Serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 3
G01	Hs.414795	NM_000602	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
G02	Hs.581632	NM_005414	SKIL	SKI-like oncogene
G03	Hs.327179	NM_006632	SLC17A3	Solute carrier family 17 (sodium phosphate), member 3
G04	Hs.419240	NM_006931	SLC2A3	Solute carrier family 2 (facilitated glucose transporter), member 3
G05	Hs.729034	NM_012319	SLC39A6	Solute carrier family 39 (zinc transporter), member 6
G06	Hs.592123	NM_004176	SREBF1	Sterol regulatory element binding transcription factor 1
G07	Hs.503998	NM_003186	TAGLN	Transgelin
G08	Hs.591969	NM_003251	THRSP	Thyroid hormone responsive
G09	Hs.494146	NM_013390	TMEM2	Transmembrane protein 2
G10	Hs.728817	NM_003330	TXNRD1	Thioredoxin reductase 1
G11	Hs.463964	NM_017983	WIPI1	WD repeat domain, phosphoinositide interacting 1
G12	Hs.301564	NM_024640	YRDC	YrdC domain containing (<i>E. coli</i>)
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human 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.

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.

Trademarks: QIAGEN® (QIAGEN Group); Applied Biosystems®, ViiA™, StepOnePlus™, ROX™ (Applied Biosystems Corporation or its subsidiaries); Bio-Rad®, iCycler®, iQ™, MyiQ™, Chromo4™, CFX96™, DNA Engine Opticon®, CFX384™ (Bio-Rad Laboratories, Inc.); Stratagene®, Mx3005P®, Mx3000P®, Mx4000® (Stratagene); Eppendorf®, Mastercycler® (Eppendorf AG); Roche®, LightCycler® (Roche Group); Fluidigm® BioMark™ (Fluidigm Corporation); SYBR® (Molecular Probes, Inc.).

1066029 03/2011 © 2011 QIAGEN, all rights reserved.

www.qiagen.com

Canada ■ 800-572-9613

Ireland ■ 1800 555 049

Norway ■ 800-18859

China ■ 8621-3865-3865

Italy ■ 800-787980

Singapore ■ 1800-742-4368

Denmark ■ 80-885945

Japan ■ 03-6890-7300

Spain ■ 91-630-7050

Australia ■ 1-800-243-800

Finland ■ 0800-914416

Korea (South) ■ 080-000-7145

Sweden ■ 020-790282

Austria ■ 0800/281010

France ■ 01-60-920-930

Luxembourg ■ 8002 2076

Switzerland ■ 055-254-22-11

Belgium ■ 0800-79612

Germany ■ 02103-29-12000

Mexico ■ 01-800-7742-436

UK ■ 01293-422-911

Brazil ■ 0800-557779

Hong Kong ■ 800 933 965

The Netherlands ■ 0800 0229592

USA ■ 800-426-8157



Sample & Assay Technologies