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

Rat Drug Metabolism: Phase I Enzymes

Cat. no. 330231 PARN-068ZA

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™

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Description

The Rat Drug Metabolism: Phase I Enzymes RT² Profiler PCR Array contains 84 genes involved in phase I drug metabolism. Phase I drug metabolism enzymes make compounds more hydrophilic and add functional groups necessary for the completion of Phase II drug metabolism. This array represents genes involved in Phase I drug metabolism reactions including oxidation, reduction, hydrolysis, cyclization, and decyclization. Members of the Cytochrome P450 enzyme familty that play a key role in mediating phase I drug metabolism reactions are also included on this array. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to drug phase I metabolism 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	Aadac	Adh1	Adh4	Adh6	Adh7	Aldh1a1	Aldh1a2	Aldh1a3	Aldh1b1	Aldh2	Aldh3a1	Aldh3a2
B	Aldh3b1	Aldh3b2	Aldh5a1	Aldh6a1	Aldh7a1	Aldh8a1	Aldh9a1	Cel	Cyp11a1	Cyp11b1	Cyp17a1	Cyp19a1
C	Cyp1a1	Cyp1a2	Cyp1b1	Cyp24a1	Cyp26a1	Cyp26b1	Cyp26c1	Cyp27a1	Cyp27b1	Cyp2a3	Cyp2b2	Cyp2b3
D	Cyp2c11	Cyp2c22	Cyp2c23	Cyp2c37	Cyp2c6	Cyp2c7	Cyp2c80	Cyp2d2	Cyp2d4	Cyp2e1	Cyp2f4	Cyp2r1
E	Cyp2s1	Cyp2t1	Cyp2w1	Cyp3a18	Cyp3a23/3a1	Cyp3a9	Cyp4a3	Cyp4a8	Cyp4b1	Cyp4f1	Cyp4f18	Cyp4f4
F	Cyp4f40	Cyp4f6	Cyp7a1	Cyp7b1	Cyp8b1	Dhrs2	Dpyd	Esd	Fmo1	Fmo2	Fmo3	Fmo4
G	Fmo5	Gzma	Gzmb	Hsd17b10	Maoa	Maob	Ptgs1	Ptgs2	Tas1r2	Uchl1	Uchl3	Xdh
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.48732	NM_020538	Aadac	Arylacetamide deacetylase (esterase)
A02	Rn.40222	NM_019286	Adh1	Alcohol dehydrogenase 1 (class I)
A03	Rn.98159	NM_017270	Adh4	Alcohol dehydrogenase 4 (class II), pi polypeptide
A04	Rn.214994	NM_001012084	Adh6	Alcohol dehydrogenase 6 (class V)
A05	Rn.42935	NM_134329	Adh7	Alcohol dehydrogenase 7 (class IV), mu or sigma polypeptide
A06	Rn.6132	NM_022407	Aldh1a1	Aldehyde dehydrogenase 1 family, member A1
A07	Rn.10514	NM_053896	Aldh1a2	Aldehyde dehydrogenase 1 family, member A2
A08	Rn.8297	NM_153300	Aldh1a3	Aldehyde dehydrogenase 1 family, member A3
A09	Rn.12547	NM_001011975	Aldh1b1	Aldehyde dehydrogenase 1 family, member B1
A10	Rn.101781	NM_032416	Aldh2	Aldehyde dehydrogenase 2 family (mitochondrial)
A11	Rn.105627	NM_031972	Aldh3a1	Aldehyde dehydrogenase 3 family, member A1
A12	Rn.9113	NM_031731	Aldh3a2	Aldehyde dehydrogenase 3 family, member A2
B01	Rn.162510	NM_001006998	Aldh3b1	Aldehyde dehydrogenase 3 family, member B1
B02	Rn.214520	XM_001068348	Aldh3b2	Aldehyde dehydrogenase 3 family, member B2
B03	Rn.10070	XM_214478	Aldh5a1	Aldehyde dehydrogenase 5 family, member A1
B04	Rn.2098	NM_031057	Aldh6a1	Aldehyde dehydrogenase 6 family, member A1
B05	Rn.7330	XM_214535	Aldh7a1	Aldehyde dehydrogenase 7 family, member A1
B06	Rn.44523	XM_001065122	Aldh8a1	Aldehyde dehydrogenase 8 family, member A1
B07	Rn.98155	NM_022273	Aldh9a1	Aldehyde dehydrogenase 9 family, member A1
B08	Rn.91234	NM_016997	Cel	Carboxyl ester lipase
B09	Rn.1401	NM_017286	Cyp11a1	Cytochrome P450, family 11, subfamily a, polypeptide 1
B10	Rn.198235	NM_012537	Cyp11b1	Cytochrome P450, family 11, subfamily b, polypeptide 1
B11	Rn.10172	NM_012753	Cyp17a1	Cytochrome P450, family 17, subfamily a, polypeptide 1
B12	Rn.21402	NM_017085	Cyp19a1	Cytochrome P450, family 19, subfamily a, polypeptide 1
C01	Rn.10352	NM_012540	Cyp1a1	Cytochrome P450, family 1, subfamily a, polypeptide 1
C02	Rn.5563	NM_012541	Cyp1a2	Cytochrome P450, family 1, subfamily a, polypeptide 2
C03	Rn.10125	NM_012940	Cyp1b1	Cytochrome P450, family 1, subfamily b, polypeptide 1
C04	Rn.100353	NM_201635	Cyp24a1	Cytochrome P450, family 24, subfamily a, polypeptide 1
C05	Rn.81072	NM_130408	Cyp26a1	Cytochrome P450, family 26, subfamily A, polypeptide 1
C06	Rn.19898	NM_181087	Cyp26b1	Cytochrome P450, family 26, subfamily b, polypeptide 1
C07	Rn.141117	XM_217935	Cyp26c1	Cytochrome P450, family 26, subfamily C, polypeptide 1
C08	Rn.94956	NM_178847	Cyp27a1	Cytochrome P450, family 27, subfamily a, polypeptide 1
C09	Rn.10847	NM_053763	Cyp27b1	Cytochrome P450, family 27, subfamily b, polypeptide 1
C10	Rn.2063	NM_012542	Cyp2a3	Cytochrome P450, family 2, subfamily a, polypeptide 3
C11	Rn.91353	NM_001198676	Cyp2b2	Cytochrome P450, family 2, subfamily b, polypeptide 2
C12	Rn.4845	NM_173294	Cyp2b3	Cytochrome P450, family 2, subfamily b, polypeptide 3
D01	Rn.10870	NM_019184	Cyp2c11	Cytochrome P450, subfamily 2, polypeptide 11
D02	Rn.88025	NM_138512	Cyp2c22	Cytochrome P450, family 2, subfamily c, polypeptide 22
D03	Rn.2184	NM_031839	Cyp2c23	Cytochrome P450, family 2, subfamily c, polypeptide 23
D04	Rn.185941	XM_001063361	Cyp2c37	Cytochrome P450, family 2, subfamily c, polypeptide 37
D05	Rn.91122	XM_001066767	Cyp2c6	Cytochrome P450, family 2, subfamily c, polypeptide 6
D06	Rn.1247	NM_017158	Cyp2c7	Cytochrome P450, family 2, subfamily c, polypeptide 7
D07	Rn.154468	XM_217906	Cyp2c80	Cytochrome P450, family 2, subfamily c, polypeptide 80
D08	Rn.91355	NM_012730	Cyp2d2	Cytochrome P450, family 2, subfamily d, polypeptide 2
D09	Rn.26060	NM_138515	Cyp2d4	Cytochrome P450, family 2, subfamily d, polypeptide 4

Position	UniGene	GenBank	Symbol	Description
D10	Rn.1372	NM_031543	Cyp2e1	Cytochrome P450, family 2, subfamily e, polypeptide 1
D11	Rn.10817	NM_019303	Cyp2f4	Cytochrome P450, family 2, subfamily f, polypeptide 4
D12	Rn.100758	NM_001108499	Cyp2r1	Cytochrome P450, family 2, subfamily r, polypeptide 1
E01	Rn.6389	NM_001107495	Cyp2s1	Cytochrome P450, family 2, subfamily s, polypeptide 1
E02	Rn.144661	NM_134369	Cyp2t1	Cytochrome P450, family 2, subfamily t, polypeptide 1
E03	Rn.99881	XM_221971	Cyp2w1	Cytochrome P450, family 2, subfamily W, polypeptide 1
E04	Rn.32085	NM_145782	Cyp3a18	Cytochrome P450, family 3, subfamily a, polypeptide 18
E05	Rn.91120	NM_013105	Cyp3a23/3a1	Cytochrome P450, family 3, subfamily a, polypeptide 23/polypeptide 1
E06	Rn.10489	NM_147206	Cyp3a9	Cytochrome P450, family 3, subfamily a, polypeptide 9
E07	Rn.33492	NM_175760	Cyp4a3	Cytochrome P450, family 4, subfamily a, polypeptide 3
E08	Rn.10034	NM_031605	Cyp4a8	Cytochrome P450, family 4, subfamily a, polypeptide 8
E09	Rn.86651	NM_016999	Cyp4b1	Cytochrome P450, family 4, subfamily b, polypeptide 1
E10	Rn.5722	NM_019623	Cyp4f1	Cytochrome P450, family 4, subfamily f, polypeptide 1
E11	Rn.215683	NM_001033686	Cyp4f18	Cytochrome P450, family 4, subfamily f, polypeptide 18
E12	Rn.10170	NM_173123	Cyp4f4	Cytochrome P450, family 4, subfamily f, polypeptide 4
F01	Rn.218623	NM_001109360	Cyp4f40	Cytochrome P450, family 4, subfamily f, polypeptide 40
F02	Rn.11269	NM_153318	Cyp4f6	Cytochrome P450, family 4, subfamily f, polypeptide 6
F03	Rn.10737	NM_012942	Cyp7a1	Cytochrome P450, family 7, subfamily a, polypeptide 1
F04	Rn.53969	NM_019138	Cyp7b1	Cytochrome P450, family 7, subfamily b, polypeptide 1
F05	Rn.23013	NM_031241	Cyp8b1	Cytochrome P450, family 8, subfamily b, polypeptide 1
F06	N/A	XM_001078405	Dhrs2	Dehydrogenase/reductase member 2
F07	Rn.158382	NM_031027	Dpyd	Dihydropyrimidine dehydrogenase
F08	Rn.3682	NM_001106051	Esd	Esterase D/formylglutathione hydrolase
F09	Rn.867	NM_012792	Fmo1	Flavin containing monooxygenase 1
F10	Rn.3928	NM_144737	Fmo2	Flavin containing monooxygenase 2
F11	Rn.163228	NM_053433	Fmo3	Flavin containing monooxygenase 3
F12	Rn.216582	NM_144562	Fmo4	Flavin containing monooxygenase 4
G01	Rn.7038	NM_144739	Fmo5	Flavin containing monooxygenase 5
G02	Rn.22283	NM_153468	Gzma	Granzyme A
G03	Rn.21395	NM_138517	Gzmb	Granzyme B
G04	Rn.2700	NM_031682	Hsd17b10	Hydroxysteroid (17-beta) dehydrogenase 10
G05	Rn.163443	NM_033653	Maoa	Monoamine oxidase A
G06	Rn.6656	NM_013198	Maob	Monoamine oxidase B
G07	Rn.44404	NM_017043	Ptgs1	Prostaglandin-endoperoxide synthase 1
G08	Rn.44369	NM_017232	Ptgs2	Prostaglandin-endoperoxide synthase 2
G09	Rn.203318	XM_001071722	Tas1r2	Taste receptor, type 1, member 2
G10	Rn.107213	NM_017237	Uchl1	Ubiquitin carboxyl-terminal esterase L1 (ubiquitin thiolesterase)
G11	Rn.46952	NM_001110165	Uchl3	Ubiquitin carboxyl-terminal esterase L3 (ubiquitin thiolesterase)
G12	Rn.202951	NM_017154	Xdh	Xanthine dehydrogenase
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 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.

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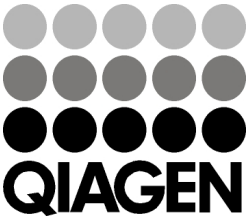

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