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

Rat Drug Metabolism: Phase II Enzymes

Cat. no. 330231 PARN-069ZA

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 II Enzymes RT² Profiler PCR Array contains 84 genes involved in the enzymatic processes of drug biotransformation. Phase II drug metabolism enzymes catalyze the conjugation of lipophilic compounds with hydrophilic functional groups or moieties to form water-soluble conjugates that can be cleared from cells and from the body. This array represents genes encoding the seven major classes of phase II drug metabolism enzymes catalyzing such reactions as glutathione conjugation, glucuronidation, sulfation, methylation, amino acid conjugation, epoxidation, and esterification. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of drug metabolism enzymes 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	A3galt2	A4galt	Aanat	Acsl1	Acsl3	Acsl4	Acsm3	Agxt	Alg5	As3mt	Asmt	Baat
B	Ccbl1	Ces1d	Ces1e	Ces2c	Ces5a	Chst7	Comt	Ddost	Eef1b2	Ephx1	Ephx2	Galnt1
C	Galnt3	Galnt4	Gamt	Gcnt1	Gcnt2	Glyat	Gnmt	Gsta3	Gsta4	Gstk1	Gstm1	Gstm2
D	Gstm3	Gstm4	Gstm5	Gsto1	Gsto2	Gstp1	Gstt1	Gstt2	Has1	Hnmt	Inmt	Mgat1
E	Mgat2	Mgst1	Mgst2	Mgst3	Nat1	Nat2	Nnmt	Nqo1	Nqo2	Pomgnt1	Ptges	Ptges2
F	Sat1	Sult1a1	Sult1b1	Sult1c2	Sult1c3	Sult1e1	Sult2b1	Sult4a1	Sult5a1	Sult6b1	Tst	Ugcg
G	Ugt1a1	Ugt1a5	Ugt1a6	Ugt1a8	Ugt1a9	Ugt2a1	Ugt2a3	Ugt2b	Ugt2b1	Ugt2b5	Ugt8	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.37737	NM_138524	A3galt2	Alpha 1,3-galactosyltransferase 2
A02	Rn.48584	NM_022240	A4galt	Alpha 1,4-galactosyltransferase
A03	Rn.88180	NM_012818	Aanat	Arylalkylamine N-acetyltransferase
A04	Rn.6215	NM_012820	Acsl1	Acyl-CoA synthetase long-chain family member 1
A05	Rn.54820	NM_057107	Acsl3	Acyl-CoA synthetase long-chain family member 3
A06	Rn.87821	NM_053623	Acsl4	Acyl-CoA synthetase long-chain family member 4
A07	Rn.88644	NM_033231	Acsm3	Acyl-CoA synthetase medium-chain family member 3
A08	Rn.9931	NM_030656	Agxt	Alanine-glyoxylate aminotransferase
A09	Rn.155539	NM_001025407	Alg5	Asparagine-linked glycosylation 5, dolichyl-phosphate beta-glucosyltransferase homolog (S. cerevisiae)
A10	Rn.95453	NM_080890	As3mt	Arsenic (+3 oxidation state) methyltransferase
A11	Rn.10768	NM_144759	Asmt	Acetylserotonin O-methyltransferase
A12	Rn.11129	NM_017300	Baat	Bile acid Coenzyme A: amino acid N-acyltransferase (glycine N-choloyltransferase)
B01	Rn.110564	NM_001013164	Ccbl1	Cysteine conjugate-beta lyase, cytoplasmic
B02	Rn.201285	NM_133295	Ces1d	Carboxylesterase 1D
B03	Rn.161717	NM_031565	Ces1e	Carboxylesterase 1E
B04	Rn.14535	NM_133586	Ces2c	Carboxylesterase 2C
B05	Rn.61848	NM_001012056	Ces5a	Carboxylesterase 5A
B06	Rn.153551	NM_207600	Chst7	Carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 7
B07	Rn.220	NM_012531	Comt	Catechol-O-methyltransferase
B08	Rn.102842	NM_001012104	Ddost	Dolichyl-diphosphooligosaccharide-protein glycosyltransferase
B09	Rn.3910	NM_001108799	Eef1b2	Eukaryotic translation elongation factor 1 beta 2
B10	Rn.3603	NM_012844	Ephx1	Epoxide hydrolase 1, microsomal
B11	Rn.54495	NM_022936	Ephx2	Epoxide hydrolase 2, cytoplasmic
B12	Rn.10266	NM_024373	Galnt1	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 1 (GalNAc-T1)
C01	Rn.78014	NM_001015032	Galnt3	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 3 (GalNAc-T3)
C02	Rn.207152	NM_001025053	Galnt4	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 4 (GalNAc-T4)
C03	Rn.33890	NM_012793	Gamt	Guanidinoacetate N-methyltransferase
C04	Rn.162516	NM_022276	Gcnt1	Glucosaminyl (N-acetyl) transferase 1, core 2 (beta-1, 6-N-acetylglucosaminyltransferase)
C05	Rn.8807	NM_001001511	Gcnt2	Glucosaminyl (N-acetyl) transferase 2, I-branching enzyme
C06	Rn.21872	NM_001009648	Glyat	Glycine-N-acyltransferase
C07	Rn.11142	NM_017084	Gnmt	Glycine N-methyltransferase
C08	Rn.10460	NM_031509	Gsta3	Glutathione S-transferase A3
C09	Rn.57528	NM_001106840	Gsta4	Glutathione S-transferase alpha 4
C10	Rn.109452	NM_181371	Gstk1	Glutathione S-transferase kappa 1
C11	Rn.202944	NM_017014	Gstm1	Glutathione S-transferase mu 1
C12	Rn.625	NM_177426	Gstm2	Glutathione S-transferase mu 2
D01	Rn.6036	NM_020540	Gstm3	Glutathione S-transferase mu 3
D02	Rn.209043	NM_001024304	Gstm4	Glutathione S-transferase mu 4
D03	Rn.9158	NM_172038	Gstm5	Glutathione S-transferase, mu 5

Position	UniGene	GenBank	Symbol	Description
D04	Rn.25166	NM_001007602	Gsto1	Glutathione S-transferase omega 1
D05	Rn.206114	NM_001012071	Gsto2	Glutathione S-transferase omega 2
D06	Rn.87063	NM_012577	Gstp1	Glutathione S-transferase pi 1
D07	Rn.11122	NM_053293	Gstt1	Glutathione S-transferase theta 1
D08	Rn.87212	NM_012796	Gstt2	Glutathione S-transferase, theta 2
D09	Rn.91138	NM_172323	Has1	Hyaluronan synthase 1
D10	Rn.13145	NM_031044	Hnmt	Histamine N-methyltransferase
D11	Rn.19133	NM_001109022	Inmt	Indolethylamine N-methyltransferase
D12	Rn.2712	NM_030861	Mgat1	Mannosyl (alpha-1,3-)-glycoprotein beta-1,2-N-acetylglucosaminyltransferase
E01	Rn.2342	NM_053604	Mgat2	Mannosyl (alpha-1,6-)-glycoprotein beta-1,2-N-acetylglucosaminyltransferase
E02	Rn.2580	NM_134349	Mgst1	Microsomal glutathione S-transferase 1
E03	Rn.7854	NM_001106430	Mgst2	Microsomal glutathione S-transferase 2
E04	Rn.1916	XM_213943	Mgst3	Microsomal glutathione S-transferase 3
E05	Rn.37420	NM_001037315	Nat1	N-acetyltransferase 1
E06	Rn.198370	NM_053854	Nat2	N-acetyltransferase 2
E07	Rn.15755	NM_001106819	Nnmt	Nicotinamide N-methyltransferase
E08	Rn.11234	NM_017000	Nqo1	NAD(P)H dehydrogenase, quinone 1
E09	Rn.7882	NM_001004214	Nqo2	NAD(P)H dehydrogenase, quinone 2
E10	Rn.162088	NM_001007747	Pomgnt1	Protein O-linked mannose beta1,2-N-acetylglucosaminyltransferase
E11	Rn.7730	NM_021583	Ptges	Prostaglandin E synthase
E12	Rn.39290	NM_001107832	Ptges2	Prostaglandin E synthase 2
F01	Rn.107986	NM_001007667	Sat1	Spermidine/spermine N1-acetyl transferase 1
F02	Rn.1507	NM_031834	Sult1a1	Sulfotransferase family, cytosolic, 1A, phenol-preferring, member 1
F03	Rn.1183	NM_022513	Sult1b1	Sulfotransferase family, cytosolic, 1B, member 1
F04	Rn.220698	NM_133547	Sult1c2	Sulfotransferase family, cytosolic, 1C, member 2
F05	Rn.9937	NM_031732	Sult1c3	Sulfotransferase family, cytosolic, 1C, member 3
F06	Rn.32104	NM_012883	Sult1e1	Sulfotransferase family 1E, estrogen-preferring, member 1
F07	Rn.100005	NM_001039665	Sult2b1	Sulfotransferase family, cytosolic, 2B, member 1
F08	Rn.162965	NM_031641	Sult4a1	Sulfotransferase family 4A, member 1
F09	Rn.107747	NM_001106194	Sult5a1	Sulfotransferase family 5A, member 1
F10	Rn.155063	XM_578623	Sult6b1	Sulfotransferase family, cytosolic, 6B, member 1
F11	Rn.6360	NM_012808	Tst	Thiosulfate sulfurtransferase
F12	Rn.24091	NM_031795	Ugcg	UDP-glucose ceramide glucosyltransferase
G01	Rn.26489	NM_012683	Ugt1a1	UDP glucuronosyltransferase 1 family, polypeptide A1
G02	Rn.26489	NM_001039549	Ugt1a5	UDP glucuronosyltransferase 1 family, polypeptide A5
G03	Rn.26489	NM_057105	Ugt1a6	UDP glucuronosyltransferase 1 family, polypeptide A6
G04	Rn.26489	NM_175846	Ugt1a8	UDP glycosyltransferase 1 family, polypeptide A8
G05	Rn.26489	NM_201425	Ugt1a9	UDP glucuronosyltransferase 1 family, polypeptide A9
G06	Rn.138121	NM_022228	Ugt2a1	UDP glucuronosyltransferase 2 family, polypeptide A1
G07	Rn.124736	NM_001135869	Ugt2a3	UDP glucuronosyltransferase 2 family, polypeptide A3
G08	Rn.2521	NM_031533	Ugt2b	UDP glycosyltransferase 2 family, polypeptide B
G09	Rn.9969	NM_173295	Ugt2b1	UDP glucuronosyltransferase 2 family, polypeptide B1
G10	Rn.217178	NM_153314	Ugt2b5	UDP glucuronosyltransferase 2 family, polypeptide B5
G11	Rn.9744	NM_019276	Ugt8	UDP glycosyltransferase 8
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.

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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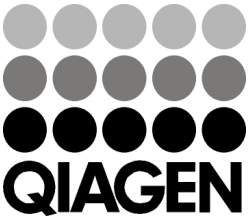

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