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

Mouse Cardiovascular Disease

Cat. no. 330231 PAMM-174ZA

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 Mouse Cardiovascular Disease RT² Profiler PCR Array profiles the expression of 84 genes linked to cardiac disease. Cardiovascular disease is the most important cause of morbidity and mortality in developed countries, causing twice as many deaths as cancer in the United States. Multiple genetic and environmental factors, as well as the interactions between them, increase the risk for developing major cardiovascular diseases such as coronary artery disease (CAD), myocardial infarction (MI), and congestive heart failure (CHF), to name a few. The underlying pathogenic mechanisms for these disorders are still largely unknown, but observed gene expression changes may play a central role in the development and progression of cardiovascular disease. Microarray studies have characterized gene expression patterns in diseased and non-diseased patients leading to the identification of unique subsets of genes associated with the cardiac disease process. The genes profiled with this array play roles in molecular processes such as apoptosis, cardiac remodeling, cell cycle, cell growth, stress and immune responses, transcriptional regulation, and signal transduction. Genes encoding sarcomere structural proteins are represented as well. A set of controls present on each array enables data analysis using the ΔΔCT 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 related to cardiovascular 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	Ace	Actc1	Adra1a	Adra1b	Adra1d	Adrb1	Adrb2	Adrb3	Aebp1	Agtr1a	Anxa4	Ar
B	Atp2a2	Atp5a1	C6	Ccl11	Ccl2	Ccnd1	Cdkn1b	Col11a1	Col1a1	Col3a1	Creb5	Crem
C	Cryab	Crym	Ctgf	Cxcl12	Dcn	Dmd	Dusp6	Enah	Epor	F2r	Fn1	Frzb
D	G0s2	Gja1	Hmgcl	Hmgcr	Hmgn2	Klhl3	Maoa	Map2k5	Mapk1	Mapk8	Mmp13	Msi2
E	Myh10	Myh6	Ndufb5	Nebl	Nfia	Nkx2-5	Nppa	Nppb	Npr1	Npr2	Npr3	Nr3c1
F	Nr3c2	Pde3a	Pde3b	Pde5a	Pde7a	Postn	Ptn	Rarres1	Rassf1	Ren1	Rtn4	S100a1
G	S100a8	Sfrp4	Slc12a1	Snca	Spock1	Stat1	Tcf4	Thbs2	Tnni3	Tnnt2	Ubb	Zyx
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.754	NM_009598	Ace	Angiotensin I converting enzyme (peptidyl-dipeptidase A) 1
A02	Mm.686	NM_009608	Actc1	Actin, alpha, cardiac muscle 1
A03	Mm.57064	NM_013461	Adra1a	Adrenergic receptor, alpha 1a
A04	Mm.39086	NM_007416	Adra1b	Adrenergic receptor, alpha 1b
A05	Mm.389380	NM_013460	Adra1d	Adrenergic receptor, alpha 1d
A06	Mm.46797	NM_007419	Adrb1	Adrenergic receptor, beta 1
A07	Mm.5598	NM_007420	Adrb2	Adrenergic receptor, beta 2
A08	Mm.278475	NM_013462	Adrb3	Adrenergic receptor, beta 3
A09	Mm.3317	NM_009636	Aebp1	AE binding protein 1
A10	Mm.35062	NM_177322	Agtr1a	Angiotensin II receptor, type 1a
A11	Mm.259702	NM_013471	Anxa4	Annexin A4
A12	Mm.39005	NM_013476	Ar	Androgen receptor
B01	Mm.227583	NM_009722	Atp2a2	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2
B02	Mm.276137	NM_007505	Atp5a1	ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit 1
B03	Mm.20247	NM_016704	C6	Complement component 6
B04	Mm.4686	NM_011330	Ccl11	Chemokine (C-C motif) ligand 11
B05	Mm.290320	NM_011333	Ccl2	Chemokine (C-C motif) ligand 2
B06	Mm.273049	NM_007631	Ccnd1	Cyclin D1
B07	Mm.2958	NM_009875	Cdkn1b	Cyclin-dependent kinase inhibitor 1B
B08	Mm.209715	NM_007729	Col11a1	Collagen, type XI, alpha 1
B09	Mm.277735	NM_007742	Col1a1	Collagen, type I, alpha 1
B10	Mm.249555	NM_009930	Col3a1	Collagen, type III, alpha 1
B11	Mm.321138	NM_172728	Creb5	CAMP responsive element binding protein 5
B12	Mm.5244	NM_013498	Crem	CAMP responsive element modulator
C01	Mm.178	NM_009964	Cryab	Crystallin, alpha B
C02	Mm.9114	NM_016669	Crym	Crystallin, mu
C03	Mm.390287	NM_010217	Ctgf	Connective tissue growth factor
C04	Mm.303231	NM_021704	Cxcl12	Chemokine (C-X-C motif) ligand 12
C05	Mm.56769	NM_007833	Dcn	Decorin
C06	Mm.275608	NM_007868	Dmd	Dystrophin, muscular dystrophy
C07	Mm.1791	NM_026268	Dusp6	Dual specificity phosphatase 6
C08	Mm.87759	NM_010135	Enah	Enabled homolog (Drosophila)
C09	Mm.2653	NM_010149	Epor	Erythropoietin receptor
C10	Mm.24816	NM_010169	F2r	Coagulation factor II (thrombin) receptor
C11	Mm.193099	NM_010233	Fn1	Fibronectin 1
C12	Mm.427436	NM_011356	Frzb	Frizzled-related protein
D01	Mm.439721	NM_008059	G0s2	G0/G1 switch gene 2
D02	Mm.378921	NM_010288	Gja1	Gap junction protein, alpha 1
D03	Mm.482102	NM_008254	Hmgcl	3-hydroxy-3-methylglutaryl-Coenzyme A lyase
D04	Mm.316652	NM_008255	Hmgcr	3-hydroxy-3-methylglutaryl-Coenzyme A reductase
D05	Mm.319660	NM_016957	Hmgn2	High mobility group nucleosomal binding domain 2
D06	Mm.379256	NM_001195075	Klhl3	Kelch-like 3 (Drosophila)
D07	Mm.21108	NM_173740	Maoa	Monoamine oxidase A
D08	Mm.325746	NM_011840	Map2k5	Mitogen-activated protein kinase kinase 5
D09	Mm.196581	NM_011949	Mapk1	Mitogen-activated protein kinase 1

Position	UniGene	GenBank	Symbol	Description
D10	Mm.21495	NM_016700	Mapk8	Mitogen-activated protein kinase 8
D11	Mm.5022	NM_008607	Mmp13	Matrix metallopeptidase 13
D12	Mm.400451	NM_054043	Msi2	Musashi homolog 2 (Drosophila)
E01	Mm.218233	NM_175260	Myh10	Myosin, heavy polypeptide 10, non-muscle
E02	Mm.290003	NM_010856	Myh6	Myosin, heavy polypeptide 6, cardiac muscle, alpha
E03	Mm.28058	NM_025316	Ndufb5	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 5
E04	Mm.120298	NM_028757	Nebl	Nebulette
E05	Mm.31274	NM_010905	Nfia	Nuclear factor I/A
E06	Mm.41974	NM_008700	Nkx2-5	NK2 transcription factor related, locus 5 (Drosophila)
E07	Mm.482123	NM_008725	Nppa	Natriuretic peptide type A
E08	Mm.2740	NM_008726	Nppb	Natriuretic peptide type B
E09	Mm.4627	NM_008727	Npr1	Natriuretic peptide receptor 1
E10	Mm.103477	NM_173788	Npr2	Natriuretic peptide receptor 2
E11	Mm.25259	NM_008728	Npr3	Natriuretic peptide receptor 3
E12	Mm.129481	NM_008173	Nr3c1	Nuclear receptor subfamily 3, group C, member 1
F01	Mm.324393	NM_001083906	Nr3c2	Nuclear receptor subfamily 3, group C, member 2
F02	Mm.103728	NM_018779	Pde3a	Phosphodiesterase 3A, cGMP inhibited
F03	Mm.430730	NM_011055	Pde3b	Phosphodiesterase 3B, cGMP-inhibited
F04	Mm.134911	NM_153422	Pde5a	Phosphodiesterase 5A, cGMP-specific
F05	Mm.355614	NM_008802	Pde7a	Phosphodiesterase 7A
F06	Mm.236067	NM_015784	Postn	Periostin, osteoblast specific factor
F07	Mm.279690	NM_008973	Ptn	Pleiotrophin
F08	Mm.38002	NM_001164763	Rarres1	Retinoic acid receptor responder (tazarotene induced) 1
F09	Mm.12091	NM_019713	Rassf1	Ras association (RalGDS/AF-6) domain family member 1
F10	Mm.220955	NM_031192	Ren1	Renin 1 structural
F11	Mm.192580	NM_194053	Rtn4	Reticulon 4
F12	Mm.24662	NM_011309	S100a1	S100 calcium binding protein A1
G01	Mm.21567	NM_013650	S100a8	S100 calcium binding protein A8 (calgranulin A)
G02	Mm.42095	NM_016687	Sfrp4	Secreted frizzled-related protein 4
G03	Mm.3914	NM_183354	Slc12a1	Solute carrier family 12, member 1
G04	Mm.17484	NM_009221	Snca	Synuclein, alpha
G05	Mm.379020	NM_009262	Spock1	Sparc/osteonectin, cwcv and kazal-like domains proteoglycan 1
G06	Mm.277406	NM_009283	Stat1	Signal transducer and activator of transcription 1
G07	Mm.4269	NM_013685	Tcf4	Transcription factor 4
G08	Mm.26688	NM_011581	Thbs2	Thrombospondin 2
G09	Mm.27674	NM_009406	Tnni3	Troponin I, cardiac 3
G10	Mm.247470	NM_011619	Tnnt2	Troponin T2, cardiac
G11	Mm.487829	NM_011664	Ubb	Ubiquitin B
G12	Mm.282303	NM_011777	Zyx	Zyxin
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.309092	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.

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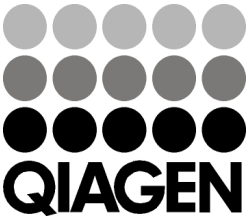

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