RT² Profiler PCR Array (Rotor-Gene® Format) Human Cardiovascular Disease

Cat. no. 330231 PAHS-174ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² Profiler PCR Array,	Rotor-Gene Q, other Rotor-Gene cyclers
Format R	

Description

The Human 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 AACT 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 the Rotor-Gene format are shipped at ambient temperature, on

dry ice, or blue ice packs depending on destination and accompanying products.

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

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc[™] (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance.

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description	
A01	Hs.298469	NM 000789	ACE	Angiotensin I converting enzyme (peptidyl-dipeptidase A) 1	
A02	Hs.118127	NM 005159	ACTC1	Actin, alpha, cardiac muscle 1	
A03	Hs.709175	NM 033303	ADRA1A	Adrenergic, alpha-1A-, receptor	
A04	Hs.670012	NM 000679	ADRA1B	Adrenergic, alpha-1B-, receptor	
A05	Hs.557	NM 000678	ADRA1D	Adrenergic, alpha-1D-, receptor	
A06	Hs.99913	NM 000684	ADRB1	Adrenergic, beta-1-, receptor	
A07	Hs.2551	NM 000024	ADRB2	Adrenergic, beta-2-, receptor, surface	
A08	Hs.2549	NM 000025	ADRB3	Adrenergic, beta-3-, receptor	
A09	Hs.439463	NM 001129	AEBP1	AE binding protein 1	
A10	Hs.477887	NM 031850	AGTR1	Angiotensin II receptor, type 1	
A11	Hs.422986	NM 001153	ANXA4	Annexin A4	
A12	Hs.76704	NM 000044	AR	Androgen receptor	
B01	Hs.506759	NM 001681	ATP2A2	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2	
B02	Hs.298280	NM_004046	ATP5A1	ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit 1	
		_		cardiac muscle	
B03	Hs.481992	NM_000065	C6	Complement component 6	
B04	Hs.54460	NM_002986	CCL11	Chemokine (C-C motif) ligand 11	
B05	Hs.143961	NM_002988	CCL18	Chemokine (C-C motif) ligand 18 (pulmonary and activation-regulated)	
B06	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2	
B07	Hs.523852	NM_053056	CCND1	Cyclin D1	
B08	Hs.238990	NM_004064	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)	
B09	Hs.523446	NM_080629	COL11A1	Collagen, type XI, alpha 1	
B10	Hs.172928	NM_000088	COL1A1	Collagen, type I, alpha 1	
B11	Hs.443625	NM_000090	COL3A1	Collagen, type III, alpha 1	
B12	Hs.437075	NM_182898	CREB5	CAMP responsive element binding protein 5	
C01	Hs.200250	NM_183011	CREM	CAMP responsive element modulator	
C02	Hs.593379	NM_001885	CRYAB	Crystallin, alpha B	
C03	Hs.924	NM_001888	CRYM	Crystallin, mu	
C04	Hs.410037	NM_001901	CTGF	Connective tissue growth factor	
C05	Hs.156316	NM_001920	DCN	Decorin	
C06	Hs.495912	NM_000109	DMD	Dystrophin	
C07	Hs.298654	NM_001946	DUSP6	Dual specificity phosphatase 6	
C08	Hs.497893	NM_001008493	ENAH	Enabled homolog (Drosophila)	
C09	Hs.631624	NM 000121	EPOR	Erythropoietin receptor	
C10	Hs.482562	NM 001992	F2R	Coagulation factor II (thrombin) receptor	
C11	Hs.203717	NM 002026	FN1	Fibronectin 1	
C12	Hs.128453	NM 001463	FRZB	Frizzled-related protein	
D01	Hs.432132	NM 015714	G0S2	G0/G1switch 2	
D02	Hs.700699	NM 000165	GJA1	Gap junction protein, alpha 1, 43kDa	
D03	Hs.533444	NM 000191	HMGCL	3-hydroxymethyl-3-methylglutaryl-CoA lyase	
D04	Hs.643495	NM 000859	HMGCR	3-hydroxy-3-methylglutaryl-CoA reductase	
D05	Hs.181163	NM 005517	HMGN2	High mobility group nucleosomal binding domain 2	
D06	Hs.655084	NM 017415	KLHL3	Kelch-like 3 (Drosophila)	
D07	Hs.183109	NM 000240	MAOA	Monoamine oxidase A	
D08	Hs.431850	NM 002745	MAPK1	Mitogen-activated protein kinase 1	
D09	Hs.138211	NM 002750	MAPK8	Mitogen-activated protein kinase 8	
D10	Hs.2936	NM 002427	MMP13	Matrix metallopeptidase 13 (collagenase 3)	
D11	Hs.685314	NM 138962	MSI2	Musashi homolog 2 (Drosophila)	
D12	Hs.374950	NM 005952	MT1X	Metallothionein 1X	
E01	Hs.16355	NM 005964	MYH10	Myosin, heavy chain 10, non-muscle	
E02	Hs.278432	NM 002471	MYH6	Myosin, heavy chain 10, non-moscle Myosin, heavy chain 6, cardiac muscle, alpha	
E03	Hs.730674	NM 002491	NDUFB5	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 5, 16kDa	
E03	Hs.5025	NM 006393	NEBL	Nebulette	
E04 E05	Hs.740757	NM_006393 NM_005595	NEBL	Nebulette Nuclear factor I/A	
E05					
	Hs.54473	NM_004387	NKX2-5	NK2 homeobox 5	
E07	Hs.75640	NM_006172	NPPA	Natriuretic peptide A	
E08	Hs.219140	NM_002521	NPPB	Natriuretic peptide B	

Position	UniGene	GenBank	Symbol	Description	
E09	Hs.490330	NILL 00000 (NPR1	Natriuretic peptide receptor A/guanylate cyclase A (atrionatriuretic peptide	
E09	ns.490330	NM_000906		receptor A)	
E10	Hs.78518	NIM 002005	NPR2	Natriuretic peptide receptor B/guanylate cyclase B (atrionatriuretic peptide	
E10	□S./6516	NM_003995		receptor B)	
E11	Hs.13528	NM 000908	NPR3	Natriuretic peptide receptor C/guanylate cyclase C (atrionatriuretic peptide	
L11	115,13320	14/4/_000708	I NPR3	receptor C)	
E12	Hs.122926	NM_000176	NR3C1	Nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)	
F01	Hs.163924	NM_000901	NR3C2	Nuclear receptor subfamily 3, group C, member 2	
F02	Hs.386791	NM_000921	PDE3A	Phosphodiesterase 3A, cGMP-inhibited	
F03	Hs.445711	NM_000922	PDE3B	Phosphodiesterase 3B, cGMP-inhibited	
F04	Hs.647971	NM_001083	PDE5A	Phosphodiesterase 5A, cGMP-specific	
F05	Hs.527119	NM_002603	PDE7A	Phosphodiesterase 7A	
F06	Hs.136348	NM_006475	POSTN	Periostin, osteoblast specific factor	
F07	Hs.371249	NM_002825	PTN	Pleiotrophin	
F08	Hs.131269	NM_002888	RARRES1	Retinoic acid receptor responder (tazarotene induced) 1	
F09	Hs.476270	NM_007182	RASSF1	Ras association (RalGDS/AF-6) domain family member 1	
F10	Hs.3210	NM_000537	REN	Renin	
F11	Hs.637850	NM_007008	RTN4	Reticulon 4	
F12	Hs.515715	NM_006271	\$100A1	\$100 calcium binding protein A1	
601	Hs.534293	NM_001085	SERPINA3	Serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member	
G01				3	
G02	Hs.658169	NM_003014	SFRP4	Secreted frizzled-related protein 4	
G03	Hs.123116	NM_000338	SLC12A1	Solute carrier family 12 (sodium/potassium/chloride transporters), member 1	
G04	Hs.21374	NM_000345	SNCA	Synuclein, alpha (non A4 component of amyloid precursor)	
G05	Hs.596136	NM_004598	SPOCK1	Sparc/osteonectin, cwcv and kazal-like domains proteoglycan (testican) 1	
G06	Hs.642990	NM_007315	STAT1	Signal transducer and activator of transcription 1, 91kDa	
G07	Hs.742885	NM_003199	TCF4	Transcription factor 4	
G08	Hs.371147	NM_003247	THBS2	Thrombospondin 2	
G09	Hs.709179	NM_000363	TNNI3	Troponin I type 3 (cardiac)	
G10	Hs.533613	NM_000364	TNNT2	Troponin T type 2 (cardiac)	
G11	Hs.356190	NM_018955	UBB	Ubiquitin B	
G12	Hs.490415	NM_003461	ZYX	Zyxin	
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, PO	
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 ROX [™] FAST Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers	330620

^{*} 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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