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

Mouse Hypertension

Cat. no. 330231 PAMM-037ZA

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 Hypertension RT² Profiler PCR Array profiles the expression of 84 key genes from biological pathways regulating blood vessel constriction and dilation in response to a variety of signals. Essential hypertension, or chronically high arterial blood pressure, remains one of the major risks factors for a variety of cardiovascular diseases and other pathological effects on many organs. Secondary hypertension also results from diabetes and stress from an overactive sympathetic nervous system. Normally, the renin-angiotensin system regulates blood pressure via liver and kidney hormonal signaling to blood vessels. Vascular endothelial cells respond to hormones and nerve impulses by releasing nitric oxide to the surrounding smooth muscles causing their constriction. Endothelial dysfunction, due to dysregulation of any of these pathways, leads to an imbalance in vasoconstriction and vasodilation causing hypertension. Target organs and tissues for hypertension that may be analyzed with this array include the heart, kidney, liver, lung and even biopsies containing capillaries and smooth muscle. A complete expression profile of these genes should serve as an effective tool to unlock the molecular mechanisms governing the onset and progression of hypertension and the resulting cardiovascular diseases. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in hypertension 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	Ace2	Acta2	Adm	Adra1b	Adra1d	Adrb1	Agt	Agtr1a	Agtr1b	Agtr2	Alox5
B	Arg2	Atp2c1	Atp6ap2	Avp	Avpr1a	Avpr1b	Bdkrb1	Bdkrb2	Bmpr2	Cacna1c	Calca	Cav1
C	Chrna1	Chrnb1	Clic1	Clic4	Clic5	Cnga1	Cnga2	Cnga3	Cnga4	Cngb1	Cngb3	Cps1
D	Drd3	Drd5	Ece1	Edn1	Edn2	Ednra	Ednrb	Ephx2	Gch1	Gchfr	Gucy1a3	Gucy1b3
E	Hif1a	Itpr1	Itpr2	Kcnj8	Kcnma1	Kng1	Mylk	Mylk2	Nos3	Nosip	Nostrin	Nppb
F	Nppc	Npr1	Npy1r	P2rx4	Pde3a	Pde3b	Pde5a	Plcg1	Plcg2	Prkg1	Prkg2	Ptgir
G	Ptgs1	Ptgs2	Ren1	S1pr1	Scnn1a	Scnn1b	Scnn1g	Slc7a1	Sphk1	Sphk2	Uts2	Uts2r
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.13451	NM_027286	Ace2	Angiotensin I converting enzyme (peptidyl-dipeptidase A) 2
A03	Mm.213025	NM_007392	Acta2	Actin, alpha 2, smooth muscle, aorta
A04	Mm.1408	NM_009627	Adm	Adrenomedullin
A05	Mm.39086	NM_007416	Adra1b	Adrenergic receptor, alpha 1b
A06	Mm.389380	NM_013460	Adra1d	Adrenergic receptor, alpha 1d
A07	Mm.46797	NM_007419	Adrb1	Adrenergic receptor, beta 1
A08	Mm.301626	NM_007428	Agt	Angiotensinogen (serpin peptidase inhibitor, clade A, member 8)
A09	Mm.35062	NM_177322	Agtr1a	Angiotensin II receptor, type 1a
A10	Mm.134863	NM_175086	Agtr1b	Angiotensin II receptor, type 1b
A11	Mm.2679	NM_007429	Agtr2	Angiotensin II receptor, type 2
A12	Mm.41072	NM_009662	Alox5	Arachidonate 5-lipoxygenase
B01	Mm.3506	NM_009705	Arg2	Arginase type II
B02	Mm.326247	NM_175025	Atp2c1	ATPase, Ca++-sequestering
B03	Mm.25148	NM_027439	Atp6ap2	ATPase, H+ transporting, lysosomal accessory protein 2
B04	Mm.6190	NM_009732	Avp	Arginine vasopressin
B05	Mm.4351	NM_016847	Avpr1a	Arginine vasopressin receptor 1A
B06	Mm.89986	NM_011924	Avpr1b	Arginine vasopressin receptor 1B
B07	Mm.377078	NM_007539	Bdkrb1	Bradykinin receptor, beta 1
B08	Mm.390475	NM_009747	Bdkrb2	Bradykinin receptor, beta 2
B09	Mm.7106	NM_007561	Bmpr2	Bone morphogenic protein receptor, type II (serine/threonine kinase)
B10	Mm.436656	NM_009781	Cacna1c	Calcium channel, voltage-dependent, L type, alpha 1C subunit
B11	Mm.4361	NM_007587	Calca	Calcitonin/calcitonin-related polypeptide, alpha
B12	Mm.28278	NM_007616	Cav1	Caveolin 1, caveolae protein
C01	Mm.4583	NM_007389	Chrna1	Cholinergic receptor, nicotinic, alpha polypeptide 1 (muscle)
C02	Mm.86425	NM_009601	Chrnb1	Cholinergic receptor, nicotinic, beta polypeptide 1 (muscle)
C03	Mm.29524	NM_033444	Clic1	Chloride intracellular channel 1
C04	Mm.257765	NM_013885	Clic4	Chloride intracellular channel 4 (mitochondrial)
C05	Mm.37666	NM_172621	Clic5	Chloride intracellular channel 5
C06	Mm.436652	NM_007723	Cnga1	Cyclic nucleotide gated channel alpha 1
C07	Mm.5097	NM_007724	Cnga2	Cyclic nucleotide gated channel alpha 2
C08	Mm.214224	NM_009918	Cnga3	Cyclic nucleotide gated channel alpha 3
C09	Mm.99556	NM_001033317	Cnga4	Cyclic nucleotide gated channel alpha 4
C10	Mm.484049	NM_001195413	Cngb1	Cyclic nucleotide gated channel beta 1
C11	Mm.445778	NM_013927	Cngb3	Cyclic nucleotide gated channel beta 3
C12	Mm.343942	NM_001080809	Cps1	Carbamoyl-phosphate synthetase 1
D01	Mm.439735	NM_007877	Drd3	Dopamine receptor D3
D02	Mm.167154	NM_013503	Drd5	Dopamine receptor D5
D03	Mm.401062	NM_199307	Ece1	Endothelin converting enzyme 1
D04	Mm.14543	NM_010104	Edn1	Endothelin 1
D05	Mm.284855	NM_007902	Edn2	Endothelin 2
D06	Mm.283168	NM_010332	Ednra	Endothelin receptor type A
D07	Mm.229532	NM_007904	Ednrb	Endothelin receptor type B
D08	Mm.15295	NM_007940	Ephx2	Epoxide hydrolase 2, cytoplasmic
D09	Mm.10651	NM_008102	Gch1	GTP cyclohydrolase 1

Position	UniGene	GenBank	Symbol	Description
D10	Mm.86373	NM_177157	Gchfr	GTP cyclohydrolase I feedback regulator
D11	Mm.143831	NM_021896	Gucy1a3	Guanylate cyclase 1, soluble, alpha 3
D12	Mm.9445	NM_017469	Gucy1b3	Guanylate cyclase 1, soluble, beta 3
E01	Mm.3879	NM_010431	Hif1a	Hypoxia inducible factor 1, alpha subunit
E02	Mm.227912	NM_010585	Itpr1	Inositol 1,4,5-trisphosphate receptor 1
E03	Mm.393003	NM_019923	Itpr2	Inositol 1,4,5-triphosphate receptor 2
E04	Mm.1482	NM_008428	Kcnj8	Potassium inwardly-rectifying channel, subfamily J, member 8
E05	Mm.343607	NM_010610	Kcnma1	Potassium large conductance calcium-activated channel, subfamily M, alpha member 1
E06	Mm.2160	NM_023125	Kng1	Kininogen 1
E07	Mm.33360	NM_139300	Mylk	Myosin, light polypeptide kinase
E08	Mm.250604	NM_001081044	Mylk2	Myosin, light polypeptide kinase 2, skeletal muscle
E09	Mm.258415	NM_008713	Nos3	Nitric oxide synthase 3, endothelial cell
E10	Mm.272139	NM_025533	Nosip	Nitric oxide synthase interacting protein
E11	Mm.90047	NM_181547	Nostrin	Nitric oxide synthase trafficker
E12	Mm.2740	NM_008726	Nppb	Natriuretic peptide type B
F01	Mm.12802	NM_010933	Nppc	Natriuretic peptide type C
F02	Mm.4627	NM_008727	Npr1	Natriuretic peptide receptor 1
F03	Mm.5112	NM_010934	Npy1r	Neuropeptide Y receptor Y1
F04	Mm.290884	NM_011026	P2rx4	Purinergic receptor P2X, ligand-gated ion channel 4
F05	Mm.103728	NM_018779	Pde3a	Phosphodiesterase 3A, cGMP inhibited
F06	Mm.430730	NM_011055	Pde3b	Phosphodiesterase 3B, cGMP-inhibited
F07	Mm.134911	NM_153422	Pde5a	Phosphodiesterase 5A, cGMP-specific
F08	Mm.44463	NM_021280	Plcg1	Phospholipase C, gamma 1
F09	Mm.192699	NM_172285	Plcg2	Phospholipase C, gamma 2
F10	Mm.381172	NM_011160	Prkg1	Protein kinase, cGMP-dependent, type I
F11	Mm.263002	NM_008926	Prkg2	Protein kinase, cGMP-dependent, type II
F12	Mm.287572	NM_008967	Ptgir	Prostaglandin I receptor (IP)
G01	Mm.275434	NM_008969	Ptgs1	Prostaglandin-endoperoxide synthase 1
G02	Mm.292547	NM_011198	Ptgs2	Prostaglandin-endoperoxide synthase 2
G03	Mm.220955	NM_031192	Ren1	Renin 1 structural
G04	Mm.982	NM_007901	S1pr1	Sphingosine-1-phosphate receptor 1
G05	Mm.144114	NM_011324	Scnn1a	Sodium channel, nonvoltage-gated 1 alpha
G06	Mm.7709	NM_011325	Scnn1b	Sodium channel, nonvoltage-gated 1 beta
G07	Mm.35247	NM_011326	Scnn1g	Sodium channel, nonvoltage-gated 1 gamma
G08	Mm.275489	NM_007513	Slc7a1	Solute carrier family 7 (cationic amino acid transporter, y+ system), member 1
G09	Mm.20944	NM_025367	Sphk1	Sphingosine kinase 1
G10	Mm.24222	NM_020011	Sphk2	Sphingosine kinase 2
G11	Mm.89984	NM_011910	Uts2	Urotensin 2
G12	Mm.20122	NM_145440	Uts2r	Urotensin 2 receptor
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.343110	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.

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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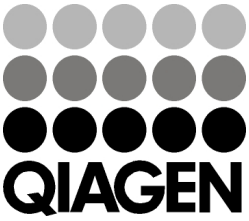

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