RT² Profiler PCR Array (Rotor-Gene® Format)

Human Hypertension

Cat. no. 330231 PAHS-037ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Human 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*.

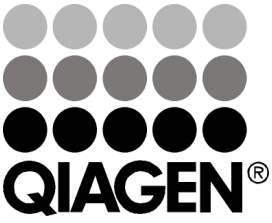
Shipping and storage

RT² Profiler PCR Arrays in 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.654434	NM_000789	ACE	Angiotensin I converting enzyme (peptidyl-dipeptidase A) 1
A02	Hs.178098	NM_021804	ACE2	Angiotensin I converting enzyme (peptidyl-dipeptidase A) 2
A03	Hs.500483	NM_001613	ACTA2	Actin, alpha 2, smooth muscle, aorta
A04	Hs.441047	NM_001124	ADM	Adrenomedullin
A05	Hs.368632	NM_000679	ADRA1B	Adrenergic, alpha-1B-, receptor
A06	Hs.557	NM_000678	ADRA1D	Adrenergic, alpha-1D-, receptor
A07	Hs.99913	NM_000684	ADRB1	Adrenergic, beta-1-, receptor
A08	Hs.19383	NM_000029	AGT	Angiotensinogen (serpin peptidase inhibitor, clade A, member 8)
A09	Hs.728754	NM_031850	AGTR1	Angiotensin II receptor, type 1
A10	Hs.405348	NM_000686	AGTR2	Angiotensin II receptor, type 2
A11	Hs.89499	NM_000698	ALOX5	Arachidonate 5-lipoxygenase
A12	Hs.708024	NM_001172	ARG2	Arginase, type II
B01	Hs.584884	NM_014382	ATP2C1	ATPase, Ca++ transporting, type 2C, member 1
B02	Hs.495960	NM_005765	ATP6AP2	ATPase, H+ transporting, lysosomal accessory protein 2
B03	Hs.89648	NM_000490	AVP	Arginine vasopressin
B04	Hs.2131	NM_000706	AVPR1A	Arginine vasopressin receptor 1A
B05	Hs.1372	NM_000707	AVPR1B	Arginine vasopressin receptor 1B
B06	Hs.525572	NM_000710	BDKRB1	Bradykinin receptor B1
B07	Hs.654542	NM_000623	BDKRB2	Bradykinin receptor B2
B08	Hs.471119	NM_001204	BMPR2	Bone morphogenetic protein receptor, type II (serine/threonine kinase)
B09	Hs.118262	NM_000719	CACNA1C	Calcium channel, voltage-dependent, L type, alpha 1C subunit
B10	Hs.37058	NM_001741	CALCA	Calcitonin-related polypeptide alpha
B11	Hs.74034	NM_001753	CAV1	Caveolin 1, caveolae protein, 22kDa
B12	Hs.434479	NM_000079	CHRNA1	Cholinergic receptor, nicotinic, alpha 1 (muscle)
C01	Hs.330386	NM_000747	CHRNB1	Cholinergic receptor, nicotinic, beta 1 (muscle)
C02	Hs.414565	NM_001288	CLIC1	Chloride intracellular channel 1
C03	Hs.440544	NM_013943	CLIC4	Chloride intracellular channel 4
C04	Hs.485489	NM_016929	CLIC5	Chloride intracellular channel 5
C05	Hs.1323	NM_000087	CNGA1	Cyclic nucleotide gated channel alpha 1
C06	Hs.447360	NM_005140	CNGA2	Cyclic nucleotide gated channel alpha 2
C07	Hs.234785	NM_001298	CNGA3	Cyclic nucleotide gated channel alpha 3
C08	Hs.434618	NM_001037329	CNGA4	Cyclic nucleotide gated channel alpha 4
C09	Hs.147062	NM_001297	CNGB1	Cyclic nucleotide gated channel beta 1
C10	Hs.154433	NM_019098	CNGB3	Cyclic nucleotide gated channel beta 3
C11	Hs.149252	NM_001875	CPS1	Carbamoyl-phosphate synthase 1, mitochondrial
C12	Hs.121478	NM_000796	DRD3	Dopamine receptor D3
D01	Hs.380681	NM_000798	DRD5	Dopamine receptor D5
D02	Hs.195080	NM_001397	ECE1	Endothelin converting enzyme 1
D03	Hs.511899	NM_001955	EDN1	Endothelin 1
D04	Hs.1407	NM_001956	EDN2	Endothelin 2
D05	Hs.183713	NM_001957	EDNRA	Endothelin receptor type A
D06	Hs.82002	NM_000115	EDNRB	Endothelin receptor type B
D07	Hs.212088	NM_001979	EPHX2	Epoxide hydrolase 2, cytoplasmic
D08	Hs.86724	NM_000161	GCH1	GTP cyclohydrolase 1
D09	Hs.631717	NM_005258	GCHFR	GTP cyclohydrolase I feedback regulator
D10	Hs.24258	NM_000856	GUCY1A3	Guanylate cyclase 1, soluble, alpha 3
D11	Hs.77890	NM_000857	GUCY1B3	Guanylate cyclase 1, soluble, beta 3
D12	Hs.597216	NM_001530	HIF1A	Hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)
E01	Hs.567295	NM_002222	ITPR1	Inositol 1,4,5-trisphosphate receptor, type 1
E02	Hs.512235	NM_002223	ITPR2	Inositol 1,4,5-trisphosphate receptor, type 2
E03	Hs.102308	NM_004982	KCNJ8	Potassium inwardly-rectifying channel, subfamily J, member 8
E04	Hs.144795	NM_002247	KCNMA1	Potassium large conductance calcium-activated channel, subfamily M, alpha member 1
E05	Hs.77741	NM_000893	KNG1	Kininogen 1
E06	Hs.477375	NM_053025	MYLK	Myosin light chain kinase
E07	Hs.86092	NM_033118	MYLK2	Myosin light chain kinase 2

Position	UniGene	GenBank	Symbol	Description
E08	Hs.130465	NM_182493	MYLK3	Myosin light chain kinase 3
E09	Hs.707978	NM_000603	NOS3	Nitric oxide synthase 3 (endothelial cell)
E10	Hs.7236	NM_015953	NOSIP	Nitric oxide synthase interacting protein
E11	Hs.189780	NM_052946	NOSTRIN	Nitric oxide synthase trafficker
E12	Hs.219140	NM_002521	NPPB	Natriuretic peptide B
F01	Hs.247916	NM_024409	NPPC	Natriuretic peptide C
F02	Hs.490330	NM_000906	NPR1	Natriuretic peptide receptor A/guanylate cyclase A (atrionatriuretic peptide receptor A)
F03	Hs.519057	NM_000909	NPY1R	Neuropeptide Y receptor Y1
F04	Hs.321709	NM_002560	P2RX4	Purinergic receptor P2X, ligand-gated ion channel, 4
F05	Hs.591150	NM_000921	PDE3A	Phosphodiesterase 3A, cGMP-inhibited
F06	Hs.445711	NM_000922	PDE3B	Phosphodiesterase 3B, cGMP-inhibited
F07	Hs.647971	NM_001083	PDE5A	Phosphodiesterase 5A, cGMP-specific
F08	Hs.268177	NM_002660	PLCG1	Phospholipase C, gamma 1
F09	Hs.413111	NM_002661	PLCG2	Phospholipase C, gamma 2 (phosphatidylinositol-specific)
F10	Hs.654556	NM_006258	PRKG1	Protein kinase, cGMP-dependent, type I
F11	Hs.570833	NM_006259	PRKG2	Protein kinase, cGMP-dependent, type II
F12	Hs.458324	NM_000960	PTGIR	Prostaglandin I2 (prostacyclin) receptor (IP)
G01	Hs.201978	NM_000962	PTGS1	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)
G02	Hs.196384	NM_000963	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
G03	Hs.3210	NM_000537	REN	Renin
G04	Hs.154210	NM_001400	S1PR1	Sphingosine-1-phosphate receptor 1
G05	Hs.591047	NM_001038	SCNN1A	Sodium channel, nonvoltage-gated 1 alpha
G06	Hs.414614	NM_000336	SCNN1B	Sodium channel, nonvoltage-gated 1, beta
G07	Hs.371727	NM_001039	SCNN1G	Sodium channel, nonvoltage-gated 1, gamma
G08	Hs.14846	NM_003045	SLC7A1	Solute carrier family 7 (cationic amino acid transporter, y+ system), member 1
G09	Hs.68061	NM_021972	SPHK1	Sphingosine kinase 1
G10	Hs.528006	NM_020126	SPHK2	Sphingosine kinase 2
G11	Hs.715862	NM_006786	UTS2	Urotensin 2
G12	Hs.192720	NM_018949	UTS2R	Urotensin 2 receptor
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, P0
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.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² 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

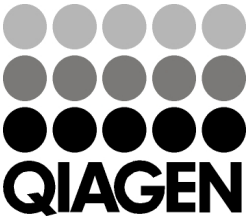
* Larger kit sizes available; please inquire.

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.

www.qiagen.com

Australia ▪ 1-800-243-800
Austria ▪ 0800/281010
Belgium ▪ 0800-79612
Brazil ▪ 0800-557779
Canada ▪ 800-572-9613
China ▪ 8621-3865-3865
Denmark ▪ 80-885945
Finland ▪ 0800-914416
France ▪ 01-60-920-930
Germany ▪ 02103-29-12000
Hong Kong ▪ 800 933 965
Ireland ▪ 1800 555 049
Italy ▪ 800-787980
Japan ▪ 03-6890-7300
Korea (South) ▪ 080-000-7145
Luxembourg ▪ 8002 2076
Mexico ▪ 01-800-7742-436
The Netherlands ▪ 0800 0229592
Norway ▪ 800-18859
Singapore ▪ 1800-742-4368
Spain ▪ 91-630-7050
Sweden ▪ 020-790282
Switzerland ▪ 055-254-22-11
UK ▪ 01293-422-911
USA ▪ 800-426-8157



Sample & Assay Technologies