RT² Profiler PCR Array (Rotor-Gene® Format)

Human Diabetes

Cat. no. 330231 PAHS-023ZR

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 Diabetes RT² Profiler PCR Array profiles the expression of 84 genes related to the onset, development, and progression of diabetes. They include genes that contribute to obesity, insulin resistance, the early onset of diabetes, and complications from diabetes mellitus. These genes are grouped into six functional categories: receptors, transporters & channels; nuclear receptors; metabolic enzymes; secreted factors; signal transduction proteins; and transcription factors. Many of the genes included have a tissue-specific or tissue-biased expression pattern which can also be affected by different pathophysiological states. This array can be used to study models of obesity and diabetes, to screen for therapeutics and their targets, and to profile the effect of various epidemiological and environmental factors on gene expression in various tissues or cell lines. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to diabetes 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.54470	NM_000352	ABCC8	ATP-binding cassette, sub-family C (CFTR/MRP), member 8
A02	Hs.654434	NM_000789	ACE	Angiotensin I converting enzyme (peptidyl-dipeptidase A) 1
A03	Hs.387567	NM_001096	ACLY	ATP citrate lyase
A04	Hs.2549	NM_000025	ADRB3	Adrenergic, beta-3-, receptor
A05	Hs.19383	NM_000029	AGT	Angiotensinogen (serpin peptidase inhibitor, clade A, member 8)
A06	Hs.631535	NM_001626	AKT2	V-akt murine thymoma viral oncogene homolog 2
A07	Hs.130730	NM_000486	AQP2	Aquaporin 2 (collecting duct)
A08	Hs.514821	NM_002985	CCL5	Chemokine (C-C motif) ligand 5
A09	Hs.511794	NM_001123396	CCR2	Chemokine (C-C motif) receptor 2
A10	Hs.591629	NM_006139	CD28	CD28 molecule
A11	Hs.512682	NM_001712	CEACAM1	Carcinoembryonic antigen-related cell adhesion molecule 1 (biliary glycoprotein)
A12	Hs.699463	NM_004364	CEBPA	CCAAT/enhancer binding protein (C/EBP), alpha
B01	Hs.247824	NM_005214	CTLA4	Cytotoxic T-lymphocyte-associated protein 4
B02	Hs.417962	NM_057158	DUSP4	Dual specificity phosphatase 4
B03	Hs.527295	NM_006208	ENPP1	Ectonucleotide pyrophosphatase/phosphodiesterase 1
B04	Hs.494496	NM_000507	FBP1	Fructose-1,6-bisphosphatase 1
B05	Hs.436448	NM_005251	FOXC2	Forkhead box C2 (MFH-1, mesenchyme forkhead 1)
B06	Hs.695962	NM_005249	FOXG1	Forkhead box G1
B07	Hs.247700	NM_014009	FOXP3	Forkhead box P3
B08	Hs.212293	NM_000151	G6PC	Glucose-6-phosphatase, catalytic subunit
B09	Hs.461047	NM_000402	G6PD	Glucose-6-phosphate dehydrogenase
B10	Hs.516494	NM_002054	GCG	Glucagon
B11	Hs.208	NM_000160	GCGR	Glucagon receptor
B12	Hs.1270	NM_000162	GCK	Glucokinase (hexokinase 4)
C01	Hs.389103	NM_002062	GLP1R	Glucagon-like peptide 1 receptor
C02	Hs.524418	NM_005276	GPD1	Glycerol-3-phosphate dehydrogenase 1 (soluble)
C03	Hs.445733	NM_002093	GSK3B	Glycogen synthase kinase 3 beta
C04	Hs.517581	NM_002133	HMOX1	Heme oxygenase (decycling) 1
C05	Hs.191144	NM_000458	HNF1B	HNF1 homeobox B
C06	Hs.116462	NM_178849	HNF4A	Hepatocyte nuclear factor 4, alpha
C07	Hs.643447	NM_000201	ICAM1	Intercellular adhesion molecule 1
C08	Hs.500546	NM_004969	IDE	Insulin-degrading enzyme
C09	Hs.856	NM_000619	IFNG	Interferon, gamma
C10	Hs.607212	NM_000599	IGFBP5	Insulin-like growth factor binding protein 5
C11	Hs.597664	NM_001556	IKBKB	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
C12	Hs.193717	NM_000572	IL10	Interleukin 10
D01	Hs.674	NM_002187	IL12B	Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40)
D02	Hs.513457	NM_000418	IL4R	Interleukin 4 receptor
D03	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
D04	Hs.523875	NM_001567	INPPL1	Inositol polyphosphate phosphatase-like 1
D05	Hs.654579	NM_000207	INS	Insulin
D06	Hs.465744	NM_000208	INSR	Insulin receptor
D07	Hs.471508	NM_005544	IRS1	Insulin receptor substrate 1
D08	Hs.442344	NM_003749	IRS2	Insulin receptor substrate 2
D09	Hs.485233	NM_001315	MAPK14	Mitogen-activated protein kinase 14
D10	Hs.138211	NM_002750	MAPK8	Mitogen-activated protein kinase 8
D11	Hs.21160	NM_002395	ME1	Malic enzyme 1, NADP(+)-dependent, cytosolic
D12	Hs.574626	NM_002500	NEUROD1	Neurogenic differentiation 1
E01	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E02	Hs.705388	NM_003317	NKX2-1	NK2 homeobox 1
E03	Hs.707978	NM_000603	NOS3	Nitric oxide synthase 3 (endothelial cell)
E04	Hs.654363	NM_005011	NRF1	Nuclear respiratory factor 1
E05	Hs.431279	NM_006178	NSF	N-ethylmaleimide-sensitive factor
E06	Hs.177766	NM_001618	PARP1	Poly (ADP-ribose) polymerase 1
E07	Hs.32938	NM_000209	PDX1	Pancreatic and duodenal homeobox 1
E08	Hs.497487	NM_002646	PIK3C2B	Phosphoinositide-3-kinase, class 2, beta polypeptide

Position	UniGene	GenBank	Symbol	Description
E09	Hs.518451	NM_005026	PIK3CD	Phosphoinositide-3-kinase, catalytic, delta polypeptide
E10	Hs.132225	NM_181504	PIK3R1	Phosphoinositide-3-kinase, regulatory subunit 1 (alpha)
E11	Hs.103110	NM_005036	PPARA	Peroxisome proliferator-activated receptor alpha
E12	Hs.162646	NM_015869	PPARG	Peroxisome proliferator-activated receptor gamma
F01	Hs.527078	NM_013261	PPARGC1A	Peroxisome proliferator-activated receptor gamma, coactivator 1 alpha
F02	Hs.591261	NM_133263	PPARGC1B	Peroxisome proliferator-activated receptor gamma, coactivator 1 beta
F03	Hs.43322	NM_006251	PRKAA1	Protein kinase, AMP-activated, alpha 1 catalytic subunit
F04	Hs.647072	NM_016203	PRKAG2	Protein kinase, AMP-activated, gamma 2 non-catalytic subunit
F05	Hs.460355	NM_002738	PRKCB	Protein kinase C, beta
F06	Hs.417549	NM_002827	PTPN1	Protein tyrosine phosphatase, non-receptor type 1
F07	Hs.282417	NM_002863	PYGL	Phosphorylase, glycogen, liver
F08	Hs.296169	NM_004578	RAB4A	RAB4A, member RAS oncogene family
F09	Hs.283091	NM_020415	RETN	Resistin
F10	Hs.728756	NM_000655	SELL	Selectin L
F11	Hs.380691	NM_001042	SLC2A4	Solute carrier family 2 (facilitated glucose transporter), member 4
F12	Hs.511149	NM_003825	SNAP23	Synaptosomal-associated protein, 23kDa
G01	Hs.167317	NM_003081	SNAP25	Synaptosomal-associated protein, 25kDa
G02	Hs.592123	NM_004176	SREBF1	Sterol regulatory element binding transcription factor 1
G03	Hs.83734	NM_004604	STX4	Syntaxin 4
G04	Hs.288229	NM_003165	STXBP1	Syntaxin binding protein 1
G05	Hs.515104	NM_006949	STXBP2	Syntaxin binding protein 2
G06	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
G07	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G08	Hs.279594	NM_001065	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A
G09	Hs.516826	NM_021158	TRIB3	Tribbles homolog 3 (Drosophila)
G10	Hs.66708	NM_004781	VAMP3	Vesicle-associated membrane protein 3 (cellubrevin)
G11	Hs.699980	NM_194434	VAPA	VAMP (vesicle-associated membrane protein)-associated protein A, 33kDa
G12	Hs.73793	NM_003376	VEGFA	Vascular endothelial growth factor A
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.

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