

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

Rat Diabetes

Cat. no. 330231 PARN-023ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² 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
RT ² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT ² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT ² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT ² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT ² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT ² Profiler PCR Array, Format H	Fluidigm® BioMark™



Sample & Assay Technologies

Description

The Rat 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 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	Acly	Adra1a	Adrb3	Agt	Akt2	Aqp2	Ccl5	Ccr2	Cd28	Ceacam1	Cebpa
B	Ctla4	Dpp4	Dusp4	Enpp1	Fbp1	Foxc2	Foxg1	Foxp3	G6pc	Gcg	Gcgr	Gck
C	Glp1r	Gpd1	Gsk3b	Hmox1	Hnf1b	Hnf4a	Icam1	Ide	Ifnf	Igfbp5	Ikbkb	Il10
D	Il12b	Il4ra	Il6	Inpp1	Ins1	Irs1	Irs2	Mapk14	Mapk8	Neurod1	Nfkb1	Nkx2-1
E	Nos3	Nrf1	Nsf	Parp1	Pdx1	Plk3cd	Plk3r1	Ppara	Pparg	Ppargc1a	Ptpn1	Pygl
F	Rab4a	Retn	Sell	Serpine1	Slc14a2	Slc2a4	Snop23	Snop25	Sod2	Srebfl1	Stx4	Stxbp1
G	Stxbp2	Stxbp4	Tgfb1	Tnf	Tnfrsf1a	Tnfrsf1b	Trnb3	Ucp2	Vamp2	Vamp3	Vapa	Vegfa
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.10149	NM_012544	Ace	Angiotensin I converting enzyme (peptidyl-dipeptidase A) 1
A02	Rn.29771	NM_016987	Acly	ATP citrate lyase
A03	Rn.9991	NM_017191	Adra1a	Adrenergic, alpha-1A-, receptor
A04	Rn.10100	NM_013108	Adrb3	Adrenergic, beta-3-, receptor
A05	Rn.6319	NM_134432	Agt	Angiotensinogen (serpin peptidase inhibitor, clade A, member 8)
A06	Rn.87066	NM_017093	Akt2	V-akt murine thymoma viral oncogene homolog 2
A07	Rn.90076	NM_012909	Aqp2	Aquaporin 2 (collecting duct)
A08	Rn.8019	NM_031116	Ccl5	Chemokine (C-C motif) ligand 5
A09	Rn.211983	NM_021866	Ccr2	Chemokine (C-C motif) receptor 2
A10	Rn.10327	NM_013121	Cd28	Cd28 molecule
A11	Rn.91235	NM_031755	Ceacam1	Carcinoembryonic antigen-related cell adhesion molecule 1 (biliary glycoprotein)
A12	Rn.204833	NM_012524	Cebpa	CCAAT/enhancer binding protein (C/EBP), alpha
B01	Rn.10259	NM_031674	Ctla4	Cytotoxic T-lymphocyte-associated protein 4
B02	Rn.91364	NM_012789	Dpp4	Dipeptidylpeptidase 4
B03	Rn.44407	NM_022199	Dusp4	Dual specificity phosphatase 4
B04	Rn.11199	NM_053535	Enpp1	Ectonucleotide pyrophosphatase/phosphodiesterase 1
B05	Rn.33703	NM_012558	Fbp1	Fructose-1,6-bisphosphatase 1
B06	Rn.216723	NM_001101680	Foxc2	Forkhead box C2
B07	Rn.9864	NM_012560	Foxg1	Forkhead box G1
B08	Rn.177272	NM_001108250	Foxp3	Forkhead box P3
B09	Rn.10992	NM_013098	G6pc	Glucose-6-phosphatase, catalytic subunit
B10	Rn.54383	NM_012707	Gcg	Glucagon
B11	Rn.11225	NM_172092	Gcgr	Glucagon receptor
B12	Rn.10447	NM_012565	Gck	Glucokinase
C01	Rn.11408	NM_012728	Glp1r	Glucagon-like peptide 1 receptor
C02	Rn.44452	NM_022215	Gpd1	Glycerol-3-phosphate dehydrogenase 1 (soluble)
C03	Rn.10426	NM_032080	Gsk3b	Glycogen synthase kinase 3 beta
C04	Rn.3160	NM_012580	Hmox1	Heme oxygenase (decycling) 1
C05	Rn.11342	NM_013103	Hnf1b	HNF1 homeobox B
C06	Rn.44442	NM_022180	Hnf4a	Hepatocyte nuclear factor 4, alpha
C07	Rn.12	NM_012967	Icam1	Intercellular adhesion molecule 1
C08	Rn.45029	NM_013159	Ide	Insulin degrading enzyme
C09	Rn.10795	NM_138880	Ifnf	Interferon gamma
C10	Rn.1593	NM_012817	Igfbp5	Insulin-like growth factor binding protein 5
C11	Rn.19222	NM_053355	Ikbkb	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
C12	Rn.9868	NM_012854	Il10	Interleukin 10
D01	Rn.48686	NM_022611	Il12b	Interleukin 12b
D02	Rn.10471	NM_133380	Il4ra	Interleukin 4 receptor, alpha
D03	Rn.9873	NM_012589	Il6	Interleukin 6
D04	Rn.42902	NM_022944	Inpp1	Inositol polyphosphate phosphatase-like 1
D05	Rn.962	NM_019129	Ins1	Insulin 1
D06	Rn.10476	NM_012969	Irs1	Insulin receptor substrate 1
D07	Rn.10718	NM_001168633	Irs2	Insulin receptor substrate 2
D08	Rn.88085	NM_031020	Mapk14	Mitogen activated protein kinase 14
D09	Rn.4090	XM_341399	Mapk8	Mitogen-activated protein kinase 8

Position	UniGene	GenBank	Symbol	Description
D10	Rn.44289	NM_019218	Neurod1	Neurogenic differentiation 1
D11	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
D12	Rn.34265	NM_013093	Nkx2-1	NK2 homeobox 1
E01	Rn.44265	NM_021838	Nos3	Nitric oxide synthase 3, endothelial cell
E02	Rn.17159	NM_001100708	Nrf1	Nuclear respiratory factor 1
E03	Rn.13345	NM_021748	Nsf	N-ethylmaleimide-sensitive factor
E04	Rn.11327	NM_013063	Parp1	Poly (ADP-ribose) polymerase 1
E05	Rn.54603	NM_022852	Pdx1	Pancreatic and duodenal homeobox 1
E06	Rn.11530	NM_001108978	Pik3cd	Phosphoinositide-3-kinase, catalytic, delta polypeptide
E07	Rn.10599	NM_013005	Pik3r1	Phosphoinositide-3-kinase, regulatory subunit 1 (alpha)
E08	Rn.9753	NM_013196	Ppara	Peroxisome proliferator activated receptor alpha
E09	Rn.23443	NM_013124	Pparg	Peroxisome proliferator-activated receptor gamma
E10	Rn.19172	NM_031347	Ppargc1a	Peroxisome proliferator-activated receptor gamma, coactivator 1 alpha
E11	Rn.11317	NM_012637	Ptpn1	Protein tyrosine phosphatase, non-receptor type 1
E12	Rn.21399	NM_022268	Pygl	Phosphorylase, glycogen, liver
F01	Rn.3016	NM_013019	Rab4a	RAB4A, member RAS oncogene family
F02	Rn.16746	NM_144741	Retn	Resistin
F03	Rn.10461	NM_019177	Sell	Selectin L
F04	Rn.29367	NM_012620	Serpine1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F05	Rn.10157	NM_019347	Slc14a2	Solute carrier family 14 (urea transporter), member 2
F06	Rn.1314	NM_012751	Slc2a4	Solute carrier family 2 (facilitated glucose transporter), member 4
F07	Rn.14789	NM_022689	Snap23	Synaptosomal-associated protein 23
F08	Rn.107689	NM_030991	Snap25	Synaptosomal-associated protein 25
F09	Rn.10488	NM_017051	Sod2	Superoxide dismutase 2, mitochondrial
F10	Rn.221929	XM_213329	Srebf1	Sterol regulatory element binding transcription factor 1
F11	Rn.33218	NM_031125	Stx4	Syntaxin 4
F12	Rn.80843	NM_013038	Stxbp1	Syntaxin binding protein 1
G01	Rn.10121	NM_031126	Stxbp2	Syntaxin binding protein 2
G02	Rn.49449	NM_001107038	Stxbp4	Syntaxin binding protein 4
G03	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G04	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G05	Rn.11119	NM_013091	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G06	Rn.83633	NM_130426	Tnfrsf1b	Tumor necrosis factor receptor superfamily, member 1b
G07	Rn.22325	NM_144755	Trib3	Tribbles homolog 3 (Drosophila)
G08	Rn.13333	NM_019354	Ucp2	Uncoupling protein 2 (mitochondrial, proton carrier)
G09	Rn.12939	NM_012663	Vamp2	Vesicle-associated membrane protein 2
G10	Rn.219999	NM_057097	Vamp3	Vesicle-associated membrane protein 3
G11	Rn.162275	NM_031631	Vapa	VAMP (vesicle-associated membrane protein)-associated protein A
G12	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
H01	Rn.94978	NM_031144	Actb	Actin, beta
H02	Rn.1868	NM_012512	B2m	Beta-2 microglobulin
H03	Rn.47	NM_012583	Hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H06	N/A	U26919	RGDC	Rat 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 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
RT ² 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
RT ² 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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