

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

Pig Mitochondria

Cat. no. 330231 PASS-087Z

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 Pig Mitochondria RT² Profiler PCR Array profiles the expression of 84 genes involved in the biogenesis and function of the cell's powerhouse organelle. The genes monitored by this array include regulators and mediators of mitochondrial molecular transport of not only the metabolites needed for the electron transport chain and oxidative phosphorylation, but also the ions required for maintaining the mitochondrial membrane polarization and potential important for ATP synthesis. Metabolism and energy production are not the only functions of mitochondria. Intrinsic apoptosis pathway genes activated by intracellular damage signaling are also represented on this array. Despite the mitochondrion's origins and its chromosome, the cellular genomic DNA encodes most of the proteins essential for mitochondrial replication and function. Therefore, this array's genes also target and translocate previously translated and folded proteins across and/or into the outer and/or inner mitochondrial membranes and even into the mitochondrial matrix. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in the diverse cellular functions of mitochondrial biology 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	AIFM2	AIP	BAK1	BBC3	BCL2	BCL2L1	BID	BNIP3	COX10	CPT1B	CPT2	DNAJC19
B	DNM1L	FIS1	GPX1	GRPEL1	HSP90AA1	HSPD1	IMMP1L	LOC1001551 48	LOC1001573 91	LOC1005203 17	LOC1005230 54	LOC1005242 83
C	LOC1006266 29	LOC1021578 75	LRPPRC	MFN1	MFN2	MPV17	MTX2	NEFL	OPA1	PMAIP1	PPARGC1A	RHOT1
D	RHOT2	SFN	SH3GLB1	SLC25A1	SLC25A13	SLC25A14	SLC25A15	SLC25A16	SLC25A17	SLC25A19	SLC25A20	SLC25A21
E	SLC25A22	SLC25A23	SLC25A24	SLC25A25	SLC25A27	SLC25A3	SLC25A31	SLC25A36	SLC25A37	SLC25A4	SLC25A5	SOD1
F	STARD3	TIMM10	TIMM10B	TIMM17B	TIMM22	TIMM44	TIMM50	TIMM8A	TIMM8B	TIMM9	TOMM20	TOMM20L
G	TOMM22	TOMM34	TOMM40	TOMM40L	TOMM5	TOMM70A	TP53	TSPO	UCP1	UCP2	UCP3	UXT
H	ACTB	B2M	GAPDH	HPRT1	RPL13A	SGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description	Assay
A01	N/A	XM_005657396	AIFM2	Apoptosis-inducing factor, mitochondrion-associated, 2	PPS08443A
A02	N/A	XM_003122456	AIP	AH receptor-interacting protein-like	PPS09540A
A03	Ssc.16343	XM_001928147	BAK1	Bak protein	PPS00851A
A04	Ssc.101996	XM_003127254	BBC3	Bcl-2-binding component 3-like	PPS12148A
A05	Ssc.53633	XM_003121700	BCL2	B-cell CLL/lymphoma 2	PPS01748A
A06	Ssc.94302	NM_214285	BCL2L1	BCL2-like 1	PPS00844A
A07	Ssc.19150	NM_001030535	BID	BH3 interacting domain death agonist	PPS01355A
A08	N/A	XM_003359404	BNIP3	BCL2/adenovirus E1B 19 kDa protein-interacting protein 3-like	PPS17954A
A09	Ssc.21308	NM_001244626	COX10	COX10 homolog, cytochrome c oxidase assembly protein, heme A: farnesyltransferase (yeast)	PPS71706A
A10	Ssc.15966	NM_001007191	CPT1B	Carnitine palmitoyltransferase 1B (muscle)	PPS00999A
A11	Ssc.11323	NM_001246243	CPT2	Carnitine palmitoyltransferase 2	PPS06157A
A12	Ssc.8731	NM_001190204	DNAJC19	DnaJ (Hsp40) homolog, subfamily C, member 19	PPS03148A
B01	Ssc.24428	XM_013997747	DNM1L	Dynamin 1-like	PPS07495A
B02	Ssc.15701	XM_013992306	FIS1	Hypothetical protein LOC100622909	PPS17019A
B03	Ssc.6352	NM_214201	GPX1	Glutathione peroxidase 1	PPS00715A
B04	Ssc.4971	XM_003356847	GRPEL1	GrpE protein homolog 1, mitochondrial-like	PPS16627A
B05	Ssc.12191	NM_213973	HSP90AA1	90-kDa heat shock protein	PPS00371A
B06	Ssc.6719	NM_001254716	HSPD1	Heat shock 60kDa protein 1 (chaperonin)	PPS01256A
B07	Ssc.50554	NM_001245014	IMMP1L	IMP1 inner mitochondrial membrane peptidase-like (<i>S. cerevisiae</i>)	PPS11131A
B08	Ssc.4778	XM_013980404	LOC100155148	Mitochondrial intermediate peptidase	PPS03306A
B09	Ssc.7629	XM_001926555	LOC100157391	Translocase of inner mitochondrial membrane 23 homolog (yeast)	PPS04038A
B10	Ssc.44875	XM_003129079	LOC100520317	Mitochondrial inner membrane protein COX18-like	PPS13283A
B11	N/A	XM_003124057	LOC100523054	Mitochondrial ornithine transporter 2-like	PPS14340A
B12	Ssc.1725	XM_003133480	LOC100524283	Calcium-binding mitochondrial carrier protein Aralar1-like	PPS14800A
C01	Ssc.10506	XM_013992327	LOC100626629	Kidney mitochondrial carrier protein 1	PPS71710A
C02	N/A	XM_013993499	LOC102157875	Cyclin-dependent kinase inhibitor 2A	PPS71655B
C03	Ssc.41224	XM_003125183	LRPPRC	Leucine-rich pentatricopeptide repeat containing	PPS09967A
C04	N/A	XM_013991366	MFN1	Mitofusin 1	PPS71711A
C05	N/A	XM_003127588	MFN2	Mitofusin 2	PPS05057A
C06	N/A	XM_013989580	MPV17	MpV17 mitochondrial inner membrane protein	PPS71703A
C07	Ssc.45846	NM_001044541	MTX2	Metaxin 2	PPS01456A
C08	Ssc.20298	NM_001244331	NEFL	Neurofilament, light polypeptide	PPS07941A
C09	N/A	XM_013982299	OPA1	Dynamin-like 120 kDa protein, mitochondrial-like	PPS14195A

Position	UniGene	GenBank	Symbol	Description	Assay
C10	Ssc.53694	NM_214147	PMAIP1	Phorbol-12-myristate-13-acetate-induced protein 1	PPS00605B
C11	Ssc.16864	NM_213963	PPARGC1A	Peroxisome proliferator activated receptor gamma, coactivator 1 alpha	PPS00356B
C12	N/A	XM_003131742	RHOT1	Ras homolog gene family, member T1	PPS06755A
D01	Ssc.17226	NM_214325	RHOT2	Ras homolog gene family, member T2	PPS00900A
D02	Ssc.2165	NM_001044564	SFN	Stratifin	PPS01480A
D03	Ssc.50661	NM_001168421	SH3GLB1	SH3-domain GRB2-like endophilin B1	PPS04672A
D04	Ssc.17264	NM_001190189	SLC25A1	Solute carrier family 25 (mitochondrial carrier; citrate transporter), member 1	PPS03020A
D05	Ssc.97289	XM_003130160	SLC25A13	Solute carrier family 25, member 13 (citrin)	PPS06867A
D06	Ssc.10800	XM_003360441	SLC25A14	Brain mitochondrial carrier protein 1-like	PPS15249A
D07	Ssc.47900	NM_001243910	SLC25A15	Solute carrier family 25 (mitochondrial carrier; ornithine transporter) member 15	PPS09899A
D08	N/A	XM_013990406	SLC25A16	Solute carrier family 25 (mitochondrial carrier), member 16	PPS71700A
D09	Ssc.4477	XM_003126004	SLC25A17	Peroxisomal membrane protein PMP34-like	PPS12263A
D10	Ssc.49080	NM_001164514	SLC25A19	Solute carrier family 25 (mitochondrial thiamine pyrophosphate carrier), member 19	PPS04613A
D11	Ssc.31893	XM_003483178	SLC25A20	Solute carrier family 25 (carnitine/acylcarnitine translocase), member 20	PPS14866A
D12	Ssc.28865	XM_005666201	SLC25A21	Solute carrier family 25 (mitochondrial oxoadipate carrier), member 21	PPS11277A
E01	N/A	XM_003122398	SLC25A22	Mitochondrial glutamate carrier 1-like	PPS10781A
E02	Ssc.37867	NM_001246246	SLC25A23	Solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 23	PPS06050A
E03	Ssc.15314	NM_001199363	SLC25A24	Calcium-binding mitochondrial carrier protein SCaMC-1-like	PPS06053A
E04	Ssc.2879	NM_001164510	SLC25A25	Solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 25	PPS03694A
E05	Ssc.10703	NM_001195115	SLC25A27	Solute carrier family 25, member 27	PPS04158A
E06	Ssc.95904	NM_001164512	SLC25A3	Solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3	PPS04611A
E07	N/A	XM_003129207	SLC25A31	ADP/ATP translocase 4-like	PPS12580A
E08	Ssc.30525	NM_001244793	SLC25A36	Solute carrier family 25 (pyrimidine nucleotide carrier), member 36	PPS10458A
E09	Ssc.37424	XM_001929122	SLC25A37	Mitochondrial carrier domain containing protein RGD1359361	PPS08459A
E10	Ssc.5284	XM_003133345	SLC25A4	ADP/ATP translocase 1-like	PPS12075A
E11	Ssc.5999	XM_001927440	SLC25A5	Adenine nucleotide translocator 2	PPS09447A
E12	Ssc.12390	NM_001190422	SOD1	Superoxide dismutase 1, soluble	PPS00379A
F01	Ssc.4484	NM_001143725	STARD3	StAR-related lipid transfer (START) domain containing 3	PPS04481A
F02	N/A	XM_005658784	TIMM10	Mitochondrial import inner membrane translocase subunit Tim10-like	PPS16331A
F03	Ssc.44618	XM_003357135	TIMM10B	Mitochondrial import inner membrane translocase subunit Tim9 B-like	PPS17426A
F04	Ssc.1814	XM_003360308	TIMM17B	Mitochondrial import inner membrane translocase subunit Tim17-B-like	PPS16055A
F05	Ssc.1157	XM_003358187	TIMM22	Translocase of inner mitochondrial membrane 22 homolog (yeast)	PPS13965A
F06	Ssc.21977	XM_003123200	TIMM44	Translocase of inner mitochondrial membrane 44 homolog (yeast)	PPS06429A
F07	Ssc.2745	XM_003355908	TIMM50	Mitochondrial import inner membrane translocase subunit TIM50-like	PPS17464A
F08	Ssc.22719	XM_003135239	TIMM8A	Mitochondrial import inner membrane translocase subunit Tim8 A-like	PPS12167A
F09	Ssc.54678	XM_003129849	TIMM8B	Mitochondrial import inner membrane translocase subunit Tim8 B-like	PPS11898A
F10	Ssc.15531	XM_003353493	TIMM9	Mitochondrial import inner membrane translocase subunit Tim9-like	PPS16085A
F11	Ssc.56505	XM_001926935	TOMM20	Translocase of outer mitochondrial membrane 20 homolog (yeast)	PPS02531A
F12	N/A	XM_003121830	TOMM20L	TOMM20-like protein 1-like	PPS11290A
G01	Ssc.7547	XM_003126016	TOMM22	Translocase of outer mitochondrial membrane 22 homolog (yeast)	PPS71705A
G02	Ssc.71689	NM_001190159	TOMM34	Translocase of outer mitochondrial membrane 34	PPS03968A
G03	Ssc.48851	XM_005674642	TOMM40	Translocase of outer mitochondrial membrane 40 homolog (yeast)	PPS71720A
G04	Ssc.71087	XM_003125660	TOMM40L	Mitochondrial import receptor subunit TOM40B-like	PPS15078A
G05	Ssc.872	XM_003122021	TOMM5	Mitochondrial import receptor subunit TOM5 homolog	PPS13363A
G06	Ssc.82626	XM_005654069	TOMM70A	Translocase of outer mitochondrial membrane 70 homolog A (S. cerevisiae)	PPS14549A
G07	Ssc.15917	NM_213824	TP53	Tumor protein p53	PPS00603A
G08	Ssc.5936	NM_213753	TSPO	Translocator protein (18kDa)	PPS00034A
G09	N/A	XM_013978885	UCP1	Uncoupling protein 1 (mitochondrial, proton carrier)	PPS71723A
G10	Ssc.16350	NM_214289	UCP2	Uncoupling protein 2 (mitochondrial, proton carrier)	PPS00857B
G11	Ssc.82448	NM_214049	UCP3	Uncoupling protein 3 (mitochondrial, proton carrier)	PPS00455A
G12	N/A	XM_003135055	UXT	Protein UXT-like	PPS14108A
H01	Ssc.10316	XM_003124280	ACTB	Actin, beta	PPS71698A
H02	Ssc.73773	NM_213978	B2M	Beta-2-microglobulin	PPS00376A
H03	Ssc.16135	NM_001206359	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase	PPS00192A
H04	Ssc.4158	NM_001032376	HPRT1	Hypoxanthine phosphoribosyltransferase 1	PPS00668B

Position	UniGene	GenBank	Symbol	Description	Assay
H05	Ssc.27927	NM_001244068	RPL13A	Ribosomal protein L13a	PPS01574A
H06	N/A	SA_00133	SGDC	Pig Genomic DNA Contamination	PPS71596A
H07	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H08	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H09	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H10	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H11	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H12	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A

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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