

RT² Profiler PCR Array (Rotor-Gene® Format)

Pig Mitochondria

Cat. no. 330231 PASS-087ZR

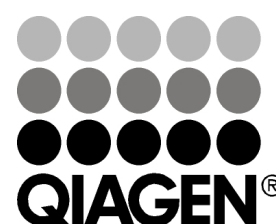
For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

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 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 cyclers (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
1	N/A	XM_005657396	AIFM2	Apoptosis-inducing factor, mitochondrion-associated, 2
2	N/A	XM_003122456	AIP	AH receptor-interacting protein-like
3	Ssc.16343	XM_001928147	BAK1	Bak protein
4	Ssc.101996	XM_003127254	BBC3	Bcl-2-binding component 3-like
5	Ssc.53633	XM_003121700	BCL2	B-cell CLL/lymphoma 2
6	Ssc.94302	NM_214285	BCL2L1	BCL2-like 1
7	Ssc.19150	NM_001030535	BID	BH3 interacting domain death agonist
8	N/A	XM_003359404	BNIP3	BCL2/adenovirus E1B 19 kDa protein-interacting protein 3-like
9	Ssc.21308	NM_001244626	COX10	COX10 homolog, cytochrome c oxidase assembly protein, heme A: farnesyltransferase (yeast)
10	Ssc.15966	NM_001007191	CPT1B	Carnitine palmitoyltransferase 1B (muscle)
11	Ssc.11323	NM_001246243	CPT2	Carnitine palmitoyltransferase 2
12	Ssc.8731	NM_001190204	DNAJC19	DnaJ (Hsp40) homolog, subfamily C, member 19
13	Ssc.24428	XM_013997747	DNM1L	Dynamin 1-like
14	Ssc.15701	XM_013992306	FIS1	Hypothetical protein LOC100622909
15	Ssc.6352	NM_214201	GPX1	Glutathione peroxidase 1
16	Ssc.4971	XM_003356847	GRPEL1	GrpE protein homolog 1, mitochondrial-like
17	Ssc.12191	NM_213973	HSP90AA1	90-kDa heat shock protein
18	Ssc.6719	NM_001254716	HSPD1	Heat shock 60kDa protein 1 (chaperonin)
19	Ssc.50554	NM_001245014	IMMP1L	IMP1 inner mitochondrial membrane peptidase-like (<i>S. cerevisiae</i>)
20	Ssc.4778	XM_013980404	LOC100155148	Mitochondrial intermediate peptidase
21	Ssc.7629	XM_001926555	LOC100157391	Translocase of inner mitochondrial membrane 23 homolog (yeast)
22	Ssc.44875	XM_003129079	LOC100520317	Mitochondrial inner membrane protein COX18-like
23	N/A	XM_003124057	LOC100523054	Mitochondrial ornithine transporter 2-like
24	Ssc.1725	XM_003133480	LOC100524283	Calcium-binding mitochondrial carrier protein Aralar1-like
25	Ssc.10506	XM_013992327	LOC100626629	Kidney mitochondrial carrier protein 1
26	N/A	XM_013993499	LOC102157875	Cyclin-dependent kinase inhibitor 2A
27	Ssc.41224	XM_003125183	LRPPRC	Leucine-rich pentatricopeptide repeat containing
28	N/A	XM_013991366	MFN1	Mitofusin 1
29	N/A	XM_003127588	MFN2	Mitofusin 2
30	N/A	XM_013989580	MPV17	MpV17 mitochondrial inner membrane protein
31	Ssc.45846	NM_001044541	MTX2	Metaxin 2
32	Ssc.20298	NM_001244331	NEFL	Neurofilament, light polypeptide
33	N/A	XM_013982299	OPA1	Dynamin-like 120 kDa protein, mitochondrial-like
34	Ssc.53694	NM_214147	PMAIP1	Phorbol-12-myristate-13-acetate-induced protein 1
35	Ssc.16864	NM_213963	PPARGC1A	Peroxisome proliferator activated receptor gamma, coactivator 1 alpha
36	N/A	XM_003131742	RHOT1	Ras homolog gene family, member T1
37	Ssc.17226	NM_214325	RHOT2	Ras homolog gene family, member T2
38	Ssc.2165	NM_001044564	SFN	Stratifin

Position	UniGene	GenBank	Symbol	Description
39	Ssc.50661	NM_001168421	SH3GLB1	SH3-domain GRB2-like endophilin B1
40	Ssc.17264	NM_001190189	SLC25A1	Solute carrier family 25 (mitochondrial carrier; citrate transporter), member 1
41	Ssc.97289	XM_003130160	SLC25A13	Solute carrier family 25, member 13 (citrin)
42	Ssc.10800	XM_003360441	SLC25A14	Brain mitochondrial carrier protein 1-like
43	Ssc.47900	NM_001243910	SLC25A15	Solute carrier family 25 (mitochondrial carrier; ornithine transporter) member 15
44	N/A	XM_013990406	SLC25A16	Solute carrier family 25 (mitochondrial carrier), member 16
45	Ssc.4477	XM_003126004	SLC25A17	Peroxisomal membrane protein PMP34-like
46	Ssc.49080	NM_001164514	SLC25A19	Solute carrier family 25 (mitochondrial thiamine pyrophosphate carrier), member 19
47	Ssc.31893	XM_003483178	SLC25A20	Solute carrier family 25 (carnitine/acylcarnitine translocase), member 20
48	Ssc.28865	XM_005666201	SLC25A21	Solute carrier family 25 (mitochondrial oxoadipate carrier), member 21
49	N/A	XM_003122398	SLC25A22	Mitochondrial glutamate carrier 1-like
50	Ssc.37867	NM_001246246	SLC25A23	Solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 23
51	Ssc.15314	NM_001199363	SLC25A24	Calcium-binding mitochondrial carrier protein SCaMC-1-like
52	Ssc.2879	NM_001164510	SLC25A25	Solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 25
53	Ssc.10703	NM_001195115	SLC25A27	Solute carrier family 25, member 27
54	Ssc.95904	NM_001164512	SLC25A3	Solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3
55	N/A	XM_003129207	SLC25A31	ADP/ATP translocase 4-like
56	Ssc.30525	NM_001244793	SLC25A36	Solute carrier family 25 (pyrimidine nucleotide carrier), member 36
57	Ssc.37424	XM_001929122	SLC25A37	Mitochondrial carrier domain containing protein RGD1359361
58	Ssc.5284	XM_003133345	SLC25A4	ADP/ATP translocase 1-like
59	Ssc.5999	XM_001927440	SLC25A5	Adenine nucleotide translocator 2
60	Ssc.12390	NM_001190422	SOD1	Superoxide dismutase 1, soluble
61	Ssc.4484	NM_001143725	STARD3	StAR-related lipid transfer (START) domain containing 3
62	N/A	XM_005658784	TIMM10	Mitochondrial import inner membrane translocase subunit Tim10-like
63	Ssc.44618	XM_003357135	TIMM10B	Mitochondrial import inner membrane translocase subunit Tim9 B-like
64	Ssc.1814	XM_003360308	TIMM17B	Mitochondrial import inner membrane translocase subunit Tim17-B-like
65	Ssc.1157	XM_003358187	TIMM22	Translocase of inner mitochondrial membrane 22 homolog (yeast)
66	Ssc.21977	XM_003123200	TIMM44	Translocase of inner mitochondrial membrane 44 homolog (yeast)
67	Ssc.2745	XM_003355908	TIMM50	Mitochondrial import inner membrane translocase subunit TIM50-like
68	Ssc.22719	XM_003135239	TIMM8A	Mitochondrial import inner membrane translocase subunit Tim8 A-like
69	Ssc.54678	XM_003129849	TIMM8B	Mitochondrial import inner membrane translocase subunit Tim8 B-like
70	Ssc.15531	XM_003353493	TIMM9	Mitochondrial import inner membrane translocase subunit Tim9-like
71	Ssc.56505	XM_001926935	TOMM20	Translocase of outer mitochondrial membrane 20 homolog (yeast)
72	N/A	XM_003121830	TOMM20L	TOMM20-like protein 1-like
73	Ssc.7547	XM_003126016	TOMM22	Translocase of outer mitochondrial membrane 22 homolog (yeast)
74	Ssc.71689	NM_001190159	TOMM34	Translocase of outer mitochondrial membrane 34
75	Ssc.48851	XM_005674642	TOMM40	Translocase of outer mitochondrial membrane 40 homolog (yeast)
76	Ssc.71087	XM_003125660	TOMM40L	Mitochondrial import receptor subunit TOM40B-like
77	Ssc.872	XM_003122021	TOMM5	Mitochondrial import receptor subunit TOM5 homolog
78	Ssc.82626	XM_005654069	TOMM70A	Translocase of outer mitochondrial membrane 70 homolog A (<i>S. cerevisiae</i>)

Position	UniGene	GenBank	Symbol	Description
79	Ssc.15917	NM_213824	TP53	Tumor protein p53
80	Ssc.5936	NM_213753	TSPO	Translocator protein (18kDa)
81	N/A	XM_013978885	UCP1	Uncoupling protein 1 (mitochondrial, proton carrier)
82	Ssc.16350	NM_214289	UCP2	Uncoupling protein 2 (mitochondrial, proton carrier)
83	Ssc.82448	NM_214049	UCP3	Uncoupling protein 3 (mitochondrial, proton carrier)
84	N/A	XM_003135055	UXT	Protein UXT-like
85	Ssc.10316	XM_003124280	ACTB	Actin, beta
86	Ssc.73773	NM_213978	B2M	Beta-2-microglobulin
87	Ssc.16135	NM_001206359	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
88	Ssc.4158	NM_001032376	HPRT1	Hypoxanthine phosphoribosyltransferase 1
89	Ssc.27927	NM_001244068	RPL13A	Ribosomal protein L13a
90	N/A	SA_00133	SGDC	Pig Genomic DNA Contamination
91	N/A	SA_00104	RTC	Reverse Transcription Control
92	N/A	SA_00104	RTC	Reverse Transcription Control
93	N/A	SA_00104	RTC	Reverse Transcription Control
94	N/A	SA_00103	PPC	Positive PCR Control
95	N/A	SA_00103	PPC	Positive PCR Control
96	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 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.

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