

RT² Profiler PCR Array (Rotor-Gene[®] Format)

Mouse Mitochondria

Cat. no. 330231 PAMM-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 Mouse 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

cycler (see table above).

Note: Open the package and store the products appropriately immediately on receipt.



Sample & Assay Technologies

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	Mm.286309	NM_178058	Aifm2	Apoptosis-inducing factor, mitochondrion-associated 2
A02	Mm.10433	NM_016666	Aip	Aryl-hydrocarbon receptor-interacting protein
A03	Mm.2443	NM_007523	Bak1	BCL2-antagonist/killer 1
A04	Mm.7660	NM_133234	Bbc3	BCL2 binding component 3
A05	Mm.257460	NM_009741	Bcl2	B-cell leukemia/lymphoma 2
A06	Mm.238213	NM_009743	Bcl2l1	Bcl2-like 1
A07	Mm.235081	NM_007544	Bid	BH3 interacting domain death agonist
A08	Mm.378890	NM_009760	Bnip3	BCL2/adenovirus E1B interacting protein 3
A09	Mm.4733	NM_009877	Cdkn2a	Cyclin-dependent kinase inhibitor 2A
A10	Mm.340211	NM_178379	Cox10	COX10 homolog, cytochrome c oxidase assembly protein, heme A: farnesyltransferase (yeast)
A11	Mm.319697	NM_001033310	Cox18	COX18 cytochrome c oxidase assembly homolog (<i>S. cerevisiae</i>)
A12	Mm.227738	NM_009948	Cpt1b	Carnitine palmitoyltransferase 1b, muscle
B01	Mm.307620	NM_009949	Cpt2	Carnitine palmitoyltransferase 2
B02	Mm.274266	NM_026332	Dnajc19	DnaJ (Hsp40) homolog, subfamily C, member 19
B03	Mm.218820	NM_152816	Dnm1l	Dynamin 1-like
B04	Mm.25849	NM_025562	Fis1	Fission 1 (mitochondrial outer membrane) homolog (yeast)
B05	Mm.220330	NM_019502	Fxc1	Fractured callus expressed transcript 1
B06	Mm.21535	NM_024478	Grpel1	GrpE-like 1, mitochondrial
B07	Mm.1843	NM_010480	Hsp90aa1	Heat shock protein 90, alpha (cytosolic), class A member 1
B08	Mm.1777	NM_010477	Hspd1	Heat shock protein 1 (chaperonin)
B09	Mm.272253	NM_028260	Immp1l	IMP1 inner mitochondrial membrane peptidase-like (<i>S. cerevisiae</i>)
B10	Mm.363813	NM_053122	Immp2l	IMP2 inner mitochondrial membrane peptidase-like (<i>S. cerevisiae</i>)
B11	Mm.217027	NM_028233	Lrpprc	Leucine-rich PPR-motif containing
B12	Mm.290414	NM_024200	Mfn1	Mitofusin 1
C01	Mm.154312	NM_133201	Mfn2	Mitofusin 2
C02	Mm.274650	NM_027436	Mipep	Mitochondrial intermediate peptidase
C03	Mm.126870	NM_144898	Msto1	Misato homolog 1 (<i>Drosophila</i>)
C04	Mm.292613	NM_016804	Mtx2	Metaxin 2
C05	Mm.1956	NM_010910	Nefl	Neurofilament, light polypeptide
C06	Mm.274285	NM_133752	Opa1	Optic atrophy 1 homolog (human)
C07	Mm.271878	NM_021451	Pmaip1	Phorbol-12-myristate-13-acetate-induced protein 1
C08	Mm.477760	NM_021536	Rhot1	Ras homolog gene family, member T1
C09	Mm.277233	NM_145999	Rhot2	Ras homolog gene family, member T2
C10	Mm.44482	NM_018754	Sfn	Stratifin
C11	Mm.271775	NM_019464	Sh3glb1	SH3-domain GRB2-like B1 (endophilin)
C12	Mm.229291	NM_153150	Slc25a1	Solute carrier family 25 (mitochondrial carrier, citrate transporter), member 1
D01	Mm.3991	NM_013770	Slc25a10	Solute carrier family 25 (mitochondrial carrier, dicarboxylate transporter), member 10
D02	Mm.30928	NM_172436	Slc25a12	Solute carrier family 25 (mitochondrial carrier, Aralar), member 12
D03	Mm.24513	NM_015829	Slc25a13	Solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 13
D04	Mm.34953	NM_011398	Slc25a14	Solute carrier family 25 (mitochondrial carrier, brain), member 14
D05	Mm.200907	NM_181325	Slc25a15	Solute carrier family 25 (mitochondrial carrier ornithine transporter), member 15
D06	Mm.37457	NM_175194	Slc25a16	Solute carrier family 25 (mitochondrial carrier, Graves disease autoantigen), member 16
D07	Mm.222536	NM_011399	Slc25a17	Solute carrier family 25 (mitochondrial carrier, peroxisomal membrane protein), member 17
D08	Mm.383426	NM_026071	Slc25a19	Solute carrier family 25 (mitochondrial thiamine pyrophosphate carrier), member 19
D09	Mm.193029	NM_001159275	Slc25a2	Solute carrier family 25 (mitochondrial carrier, ornithine transporter) member 2
D10	Mm.29666	NM_020520	Slc25a20	Solute carrier family 25 (mitochondrial carnitine/acylcarnitine translocase), member 20
D11	Mm.32835	NM_172577	Slc25a21	Solute carrier family 25 (mitochondrial oxodicarboxylate carrier), member 21
D12	Mm.33729	NM_026646	Slc25a22	Solute carrier family 25 (mitochondrial carrier, glutamate), member 22
E01	Mm.23720	NM_025877	Slc25a23	Solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 23
E02	Mm.33574	NM_172685	Slc25a24	Solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 24

Position	UniGene	GenBank	Symbol	Description
E03	Mm.37395	NM_146118	Slc25a25	Solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 25
E04	Mm.288697	NM_028711	Slc25a27	Solute carrier family 25, member 27
E05	Mm.298	NM_133668	Slc25a3	Solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 3
E06	Mm.46067	NM_026232	Slc25a30	Solute carrier family 25, member 30
E07	Mm.78691	NM_178386	Slc25a31	Solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 31
E08	Mm.293635	NM_026331	Slc25a37	Solute carrier family 25, member 37
E09	Mm.16228	NM_007450	Slc25a4	Solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 4
E10	Mm.371544	NM_007451	Slc25a5	Solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 5
E11	Mm.276325	NM_011434	Sod1	Superoxide dismutase 1, soluble
E12	Mm.290876	NM_013671	Sod2	Superoxide dismutase 2, mitochondrial
F01	Mm.265546	NM_021547	Stard3	START domain containing 3
F02	Mm.268483	NM_181516	Taz	Tafazzin
F03	Mm.21826	NM_013899	Timm10	Translocase of inner mitochondrial membrane 10 homolog (yeast)
F04	Mm.2368	NM_011590	Timm17a	Translocase of inner mitochondrial membrane 17a
F05	Mm.27393	NM_011591	Timm17b	Translocase of inner mitochondrial membrane 17b
F06	Mm.18803	NM_019818	Timm22	Translocase of inner mitochondrial membrane 22 homolog (yeast)
F07	Mm.303703	NM_016897	Timm23	Translocase of inner mitochondrial membrane 23 homolog (yeast)
F08	Mm.195249	NM_011592	Timm44	Translocase of inner mitochondrial membrane 44
F09	Mm.167913	NM_025616	Timm50	Translocase of inner mitochondrial membrane 50 homolog (yeast)
F10	Mm.214504	NM_013898	Timm8a1	Translocase of inner mitochondrial membrane 8 homolog a1 (yeast)
F11	Mm.379061	NM_013897	Timm8b	Translocase of inner mitochondrial membrane 8 homolog b (yeast)
F12	Mm.207767	NM_001024853	Timm9	Translocase of inner mitochondrial membrane 9 homolog (yeast)
G01	Mm.6932	NM_024214	Tom20	Translocase of outer mitochondrial membrane 20 homolog (yeast)
G02	Mm.246435	NM_172609	Tom22	Translocase of outer mitochondrial membrane 22 homolog (yeast)
G03	Mm.23173	NM_025996	Tom34	Translocase of outer mitochondrial membrane 34
G04	Mm.416870	NM_016871	Tom40	Translocase of outer mitochondrial membrane 40 homolog (yeast)
G05	Mm.288374	NM_001037170	Tom40l	Translocase of outer mitochondrial membrane 40 homolog-like (yeast)
G06	Mm.213292	NM_138599	Tom70a	Translocase of outer mitochondrial membrane 70 homolog A (yeast)
G07	Mm.222	NM_011640	Trp53	Transformation related protein 53
G08	Mm.1508	NM_009775	Tspo	Translocator protein
G09	Mm.4177	NM_009463	Ucp1	Uncoupling protein 1 (mitochondrial, proton carrier)
G10	Mm.171378	NM_011671	Ucp2	Uncoupling protein 2 (mitochondrial, proton carrier)
G11	Mm.6254	NM_009464	Ucp3	Uncoupling protein 3 (mitochondrial, proton carrier)
G12	Mm.34779	NM_013840	Uxt	Ubiquitously expressed transcript
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.343110	NM_008084	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mm.3317	NM_010368	Gusb	Glucuronidase, beta
H05	Mm.2180	NM_008302	Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1
H06	N/A	SA_00106	MGDC	Mouse 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 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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