

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

Mouse Necrosis

Cat. no. 330231 PAMM-141ZR

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 Necrosis RT² Profiler PCR Array profiles the expression of 84 key genes central to necrotic cell death. Historically considered an accidental or uncontrolled cell death via swelling and lysis, necrosis (also known as necroptosis, programmed necrosis, oncosis, or type III cell death) has been found by recent scientific studies to act like a specific controlled cellular program. Activated death receptors (FAS, TNFRSF1A (TNFR1), and TNFRSF10A (TRAIL-R)) signal through the serine/threonine kinase RIPK1 (RIP1). RIPK1 interacts with RIPK3 and activates PARP1 leading to mitochondrial effects such as increased reactive oxygen species (ROS), increased cytosolic calcium, and ATP depletion. This array includes genes involved in programmed necrosis, potential necrotic genes downstream of key necrotic activators, genes involved in death receptor signaling, and genes involved in ROS production or mitochondrial activity. The same death receptors initiate both necrotic signaling and apoptosis; therefore, this array also represents downstream effectors shared by these cell death programs. Results obtained using this array can yield new insights into the molecular mechanisms of necrotic cell death. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in programmed necrosis 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.318925	NM_145557	9430015G10 Rik	RIKEN cDNA 9430015G10 gene
A02	Mm.240434	NM_012019	Aifm1	Apoptosis-inducing factor, mitochondrion-associated 1
A03	Mm.396107	NM_023179	Atp6v1g2	ATPase, H+ transporting, lysosomal V1 subunit G2
A04	Mm.19904	NM_007527	Bax	Bcl2-associated X protein
A05	Mm.235081	NM_007544	Bid	BH3 interacting domain death agonist
A06	Mm.2026	NM_007464	Birc3	Baculoviral IAP repeat-containing 3
A07	Mm.210125	NM_138313	Bmf	Bcl2 modifying factor
A08	Mm.29820	NM_009761	Bnip3l	BCL2/adenovirus E1B interacting protein 3-like
A09	Mm.6221	NM_007600	Capn1	Calpain 1
A10	Mm.19306	NM_009794	Capn2	Calpain 2
A11	Mm.458021	NM_007601	Capn3	Calpain 3
A12	Mm.326847	NM_007602	Capn5	Calpain 5
B01	Mm.30290	NM_007603	Capn6	Calpain 6
B02	Mm.201535	NM_009796	Capn7	Calpain 7
B03	Mm.439782	NM_009795	Capns1	Calpain, small subunit 1
B04	Mm.22279	NM_011997	Casp8ap2	Caspase 8 associated protein 2
B05	Mm.67659	NM_028492	Ccdc103	Coiled-coil domain containing 103
B06	Mm.271833	NM_011611	Cd40	CD40 antigen
B07	Mm.41687	NM_025417	Comm4	COMM domain containing 4
B08	Mm.271671	NM_007806	Cyba	Cytochrome b-245, alpha polypeptide
B09	Mm.200362	NM_007807	Cybb	Cytochrome b-245, beta polypeptide
B10	Mm.24282	NM_173369	Cyld	Cylindromatosis (turban tumor syndrome)
B11	Mm.431316	NM_007843	Defb1	Defensin beta 1
B12	Mm.222473	NM_001162917	Dennd4a	DENN/MADD domain containing 4A
C01	Mm.250414	NM_011993	Dpysl4	Dihydropyrimidinase-like 4
C02	Mm.189270	NM_175540	Eda2r	Ectodysplasin A2 receptor
C03	Mm.260943	NM_198303	Eif5b	Eukaryotic translation initiation factor 5B
C04	Mm.5126	NM_010175	Fadd	Fas (TNFRSF6)-associated via death domain
C05	Mm.318259	NM_007983	Faf1	Fas-associated factor 1
C06	Mm.1626	NM_007987	Fas	Fas (TNF receptor superfamily member 6)
C07	Mm.3355	NM_010177	FasL	Fas ligand (TNF superfamily, member 6)
C08	Mm.24069	NM_010193	Fem1b	Feminization 1 homolog b (C. elegans)
C09	Mm.32926	NM_023907	Foxi1	Forkhead box I1
C10	Mm.277680	NM_139149	Fus	Fusion, derived from t(12;16) malignant liposarcoma (human)
C11	Mm.484118	NM_172855	Galnt5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 5
C12	Mm.10600	NM_008133	Glud1	Glutamate dehydrogenase 1
D01	Mm.210745	NM_008131	Glul	Glutamate-ammonia ligase (glutamine synthetase)
D02	Mm.439649	NM_008163	Grb2	Growth factor receptor bound protein 2
D03	Mm.45272	NM_175111	Hspbap1	Hspb associated protein 1
D04	Mm.12967	NM_010547	Ikkg	Inhibitor of kappaB kinase gamma
D05	Mm.306870	NM_020605	Jph3	Junctophilin 3
D06	Mm.252514	NM_027398	Kcnp1	Kv channel-interacting protein 1
D07	Mm.334321	NM_022654	Lrdd	Leucine-rich and death domain containing
D08	Mm.36410	NM_145527	Madd	MAP-kinase activating death domain
D09	Mm.241355	NM_010758	Mag	Myelin-associated glycoprotein
D10	Mm.440640	NM_023799	Mgea5	Meningioma expressed antigen 5 (hyaluronidase)
D11	Mm.213003	NM_010851	Myd88	Myeloid differentiation primary response gene 88
D12	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
E01	Mm.1259	NM_013609	Ngf	Nerve growth factor
E02	Mm.283893	NM_033217	Ngfr	Nerve growth factor receptor (TNFR superfamily, member 16)
E03	Mm.90787	NM_009750	Ngfrap1	Nerve growth factor receptor (TNFRSF16) associated protein 1
E04	Mm.233865	NM_172203	Nox1	NADPH oxidase 1
E05	Mm.31748	NM_015760	Nox4	NADPH oxidase 4
E06	Mm.377733	NM_146881	Olf1404	Olfactory receptor 1404
E07	Mm.277779	NM_007415	Parp1	Poly (ADP-ribose) polymerase family, member 1

Position	UniGene	GenBank	Symbol	Description
E08	Mm.281482	NM_009632	Parp2	Poly (ADP-ribose) polymerase family, member 2
E09	Mm.5246	NM_008907	Ppia	Peptidylprolyl isomerase A
E10	Mm.295252	NM_026352	Ppid	Peptidylprolyl isomerase D (cyclophilin D)
E11	Mm.227506	NM_027514	Pvr	Poliovirus receptor
E12	Mm.256926	NM_133198	Pygl	Liver glycogen phosphorylase
F01	Mm.26994	NM_016899	Rab25	RAB25, member RAS oncogene family
F02	Mm.374799	NM_009068	Ripk1	Receptor (TNFRSF)-interacting serine-threonine kinase 1
F03	Mm.112765	NM_138952	Ripk2	Receptor (TNFRSF)-interacting serine-threonine kinase 2
F04	Mm.46612	NM_019955	Ripk3	Receptor-interacting serine-threonine kinase 3
F05	Mm.291525	NM_199422	S100a7a	S100 calcium binding protein A7A
F06	Mm.16228	NM_007450	Slc25a4	Solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 4
F07	Mm.34342	NM_170756	Spata2	Spermatogenesis associated 2
F08	Mm.70781	NM_177191	Sycp2	Synaptonemal complex protein 2
F09	Mm.283293	NM_133739	Tmem123	Transmembrane protein 123
F10	Mm.99793	NM_025382	Tmem57	Transmembrane protein 57
F11	Mm.1293	NM_013693	Tnf	Tumor necrosis factor
F12	Mm.193430	NM_020275	Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b
G01	Mm.215147	NM_178931	Tnfrsf14	Tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator)
G02	Mm.12935	NM_011608	Tnfrsf17	Tumor necrosis factor receptor superfamily, member 17
G03	Mm.1258	NM_011609	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G04	Mm.235328	NM_011610	Tnfrsf1b	Tumor necrosis factor receptor superfamily, member 1b
G05	Mm.101198	NM_033042	Tnfrsf25	Tumor necrosis factor receptor superfamily, member 25
G06	Mm.13885	NM_011659	Tnfrsf4	Tumor necrosis factor receptor superfamily, member 4
G07	Mm.12810	NM_009401	Tnfrsf8	Tumor necrosis factor receptor superfamily, member 8
G08	Mm.1062	NM_009425	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
G09	Mm.208152	NM_177371	Tnfsf15	Tumor necrosis factor (ligand) superfamily, member 15
G10	Mm.264255	NM_001033161	Tradd	TNFRSF1A-associated via death domain
G11	Mm.3399	NM_009422	Traf2	Tnf receptor-associated factor 2
G12	Mm.37667	NM_175646	Txn14b	Thioredoxin-like 4B
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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