RT² Profiler PCR Array (Rotor-Gene® Format)

Mouse Cell Death PathwayFinder

Cat. no. 330231 PAMM-212ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Mouse Cell Death PathwayFinder RT² Profiler PCR Array profiles the expression of 84 key genes important for the central mechanisms of cellular death: apoptosis, autophagy, and necrosis. Apoptosis, or programmed cell death, results in controlled cell shrinkage and fragmentation via the action of caspases, as well as an anti-inflammatory cytokine release. In contrast, necrosis signals via RIPK1 (RIP1), leading to cell swelling, lysis, and a pro-inflammatory cytokine release. Autophagy destroys the cell's damaged proteins and organelles via an intracellular catabolic process in the lysosome. Multiple cellular processes require the removal of specific cells by a controlled cell-death program. For example, tissue remodeling activates apoptosis, whereas energy metabolism and growth regulation responses rely on autophagy. Developmental processes often activate apoptosis, while bodily injuries or infection more commonly induce necrosis. The molecular mechanisms behind these cell death pathways overlap and more than one form of cell death occur simultaneously during some cellular functions. Apoptosis and necrosis both signal through the death domain receptors FAS, TNFRSF1A (TNFR1), and TNFRSF10A (TRAIL-R), while autophagy and apoptosis share BCL2 family members as key players. The results of this array can yield insights into which central cell death mechanism(s) drive normal biological or pathophysiological processes. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in cellular death pathways 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.

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.1318	NM_009594	Abl1	C-abl oncogene 1, non-receptor tyrosine kinase
A03	Mm.6645	NM_009652	Akt1	Thymoma viral proto-oncogene 1
A04	Mm.220289	NM_009684	Apaf1	Apoptotic peptidase activating factor 1
A05	Mm.277585	NM_007471	App	Amyloid beta (A4) precursor protein
A06	Mm.9852	NM_026217	Atg12	Autophagy-related 12 (yeast)
A07	Mm.272972	NM_029846	Atg16l1	Autophagy-related 16-like 1 (yeast)
A08	Mm.41775	NM_026402	Atg3	Autophagy-related 3 (yeast)
A09	Mm.22264	NM_053069	Atg5	Autophagy-related 5 (yeast)
A10	Mm.275332	NM_028835	Atg7	Autophagy-related 7 (yeast)
A11	Mm.396107	NM_023179	Atp6v1g2	ATPase, H+ transporting, lysosomal V1 subunit G2
A12	Mm.19904	NM_007527	Bax	Bcl2-associated X protein
B01	Mm.257460	NM_009741	Bcl2	B-cell leukemia/lymphoma 2
B02	Mm.425593	NM_009742	Bcl2a1a	B-cell leukemia/lymphoma 2 related protein A1a
B03	Mm.238213	NM_009743	Bcl2l1	Bcl2-like 1
B04	Mm.141083	NM_009754	Bcl2l11	BCL2-like 11 (apoptosis facilitator)
B05	Mm.178947	NM_019584	Becn1	Beclin 1, autophagy related
B06	Mm.335659	NM_007465	Birc2	Baculoviral IAP repeat-containing 2
B07	Mm.2026	NM_007464	Birc3	Baculoviral IAP repeat-containing 3
B08	Mm.210125	NM_138313	Bmf	Bcl2 modifying factor
B09	Mm.1051	NM_009807	Casp1	Caspase 1
B10	Mm.3921	NM_007610	Casp2	Caspase 2
B11	Mm.34405	NM_009810	Casp3	Caspase 3
B12	Mm.281379	NM_009811	Casp6	Caspase 6
C01	Mm.35687	NM_007611	Casp7	Caspase 7
C02	Mm.88829	NM_015733	Casp9	Caspase 9
C03	Mm.67659	NM_028492	Ccdc103	Coiled-coil domain containing 103
C04	Mm.271833	NM_011611	Cd40	CD40 antigen
C05	Mm.4861	NM_011616	Cd40lg	CD40 ligand
C06	Mm.336848	NM_009805	Cflar	CASP8 and FADD-like apoptosis regulator
C07	Mm.41687	NM_025417	Commd4	COMM domain containing 4
C08	Mm.236553	NM_007798	Ctsb	Cathepsin B
C09	Mm.3619	NM_021281	Ctss	Cathepsin S
C10	Mm.24282	NM_173369	Cyld	Cylindromatosis (turban tumor syndrome)
C11	Mm.431316	NM_007843	Defb1	Defensin beta 1
C12	Mm.222473	NM_001162917	Dennd4a	DENN/MADD domain containing 4A
D01	Mm.41433	NM_010044	Dffa	DNA fragmentation factor, alpha subunit
D02	Mm.250414	NM_011993	Dpysl4	Dihydropyrimidinase-like 4
D03	Mm.260943	NM_198303	Eif5b	Eukaryotic translation initiation factor 5B
D04	Mm.9213	NM_007956	Esr1	Estrogen receptor 1 (alpha)
D05	Mm.1626	NM_007987	Fas	Fas (TNF receptor superfamily member 6)
D06	Mm.3355	NM_010177	Fasl	Fas ligand (TNF superfamily, member 6)
D07	Mm.32926	NM_023907	Foxi1	Forkhead box I1
D08	Mm.4793	NM_008064	Gaa	Glucosidase, alpha, acid
D09	Mm.72235	NM_007836	Gadd45a	Growth arrest and DNA-damage-inducible 45 alpha
D10	Mm.484118	NM_172855	Galnt5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 5
D11	Mm.439649	NM_008163	Grb2	Growth factor receptor bound protein 2
D12	Mm.45272	NM_175111	Hspbap1	Hspb associated protein 1
E01	Mm.209071	NM_010414	Htt	Huntingtin
E02	Mm.240327	NM_008337	Ifng	Interferon gamma
E03	Mm.268521	NM_010512	Igf1	Insulin-like growth factor 1
E04	Mm.275742	NM_010513	Igf1r	Insulin-like growth factor I receptor
E05	Mm.4946	NM_008387	Ins2	Insulin II
E06	Mm.29938	NM_008326	Irgm1	Immunity-related GTPase family M member 1
E07	Mm.306870	NM_020605	Jph3	Junctophilin 3

Position	UniGene	GenBank	Symbol	Description
E08	Mm.252514	NM_027398	Kcnip1	Kv channel-interacting protein 1
E09	Mm.241355	NM_010758	Mag	Myelin-associated glycoprotein
E10	Mm.196239	NM_025735	Map1lc3a	Microtubule-associated protein 1 light chain 3 alpha
E11	Mm.21495	NM_016700	Mapk8	Mitogen-activated protein kinase 8
E12	Mm.1639	NM_008562	Mcl1	Myeloid cell leukemia sequence 1
F01	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
F02	Mm.475715	NM_030152	Nol3	Nucleolar protein 3 (apoptosis repressor with CARD domain)
F03	Mm.377733	NM_146881	Olfr1404	Olfactory receptor 1404
F04	Mm.277779	NM_007415	Parp1	Poly (ADP-ribose) polymerase family, member 1
F05	Mm.281482	NM_009632	Parp2	Poly (ADP-ribose) polymerase family, member 2
F06	Mm.194127	NM_181414	Pik3c3	Phosphoinositide-3-kinase, class 3
F07	Mm.227506	NM_027514	Pvr	Poliovirus receptor
F08	Mm.26994	NM_016899	Rab25	RAB25, member RAS oncogene family
F09	Mm.394280	NM_028259	Rps6kb1	Ribosomal protein S6 kinase, polypeptide 1
F10	Mm.291525	NM_199422	S100a7a	S100 calcium binding protein A7A
F11	Mm.17484	NM_009221	Snca	Synuclein, alpha
F12	Mm.34342	NM_170756	Spata2	Spermatogenesis associated 2
G01	Mm.40828	NM_011018	Sqstm1	Sequestosome 1
G02	Mm.70781	NM_177191	Sycp2	Synaptonemal complex protein 2
G03	Mm.99793	NM_025382	Tmem57	Transmembrane protein 57
G04	Mm.1293	NM_013693	Tnf	Tumor necrosis factor
G05	Mm.193430	NM_020275	Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b
G06	Mm.15383	NM_008764	Tnfrsf11b	Tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)
G07	Mm.1258	NM_011609	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G08	Mm.3399	NM_009422	Traf2	Tnf receptor-associated factor 2
G09	Mm.222	NM_011640	Trp53	Transformation related protein 53
G10	Mm.37667	NM_175646	Txnl4b	Thioredoxin-like 4B
G11	Mm.271898	NM_009469	Ulk1	Unc-51 like kinase 1 (C. elegans)
G12	Mm.259879	NM_009688	Xiap	X-linked inhibitor of apoptosis
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.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² 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.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

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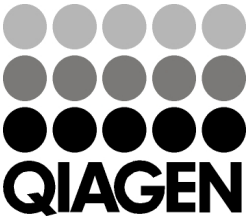

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