RT² Profiler PCR Array (Rotor-Gene® Format)

Mouse Apoptosis

Cat. no. 330231 PAMM-012ZR

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 Apoptosis RT² Profiler PCR Array profiles the expression of 84 key genes involved in programmed cell death. Apoptosis plays a critical role in normal biological processes requiring cell removal including differentiation, development, and homeostasis. Stress responses (such as heat shock, ischemia, unfolded proteins, and viral infection) cause badly damaged cells to undergo apoptosis. In cell culture, growth factor withdrawal and many known experimental compounds have a similar effect. An acquired defect in apoptosis activation often leads to uncontrolled cell growth, oncogenesis, and cancer. Ligand-bound tumor necrosis factor (TNF) receptors initiate apoptosis by recruiting FADD and other death domain adaptor proteins that then recruit and activate caspases. Environmental stresses trigger BCL2 protein oligomerization and insertion into the mitochondrial membrane, releasing APAF1 and other CARD family members that also oligomerize to recruit and activate caspases. Caspases promote a proteolysis cascade that degrades cellular protein targets, while the IAP protein family directly inhibits caspases. This array includes TNF ligands and their receptors, members of the bcl-2, caspase, IAP, TRAF, CARD, death domain, death effector domain, and CIDE families, as well as genes involved in the p53 and DNA damage pathways. Monitoring the expression of these genes helps determine the mechanisms behind programmed cell death in your model system and the propensity of a cell type to undergo apoptosis normally. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to apoptosis 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.1318	NM_009594	Abl1	C-abl oncogene 1, non-receptor tyrosine kinase
A02	Mm.240434	NM_012019	Aifm1	Apoptosis-inducing factor, mitochondrion-associated 1
A03	Mm.6645	NM_009652	Akt1	Thymoma viral proto-oncogene 1
A04	Mm.1620	NM_009673	Anxa5	Annexin A5
A05	Mm.220289	NM_009684	Apaf1	Apoptotic peptidase activating factor 1
A06	Mm.181824	NM_007466	Api5	Apoptosis inhibitor 5
A07	Mm.389890	NM_030693	Atf5	Activating transcription factor 5
A08	Mm.4387	NM_007522	Bad	BCL2-associated agonist of cell death
A09	Mm.688	NM_009736	Bag1	Bcl2-associated athanogene 1
A10	Mm.84073	NM_013863	Bag3	Bcl2-associated athanogene 3
A11	Mm.2443	NM_007523	Bak1	BCL2-antagonist/killer 1
A12	Mm.19904	NM_007527	Bax	Bcl2-associated X protein
B01	Mm.239141	NM_009740	Bcl10	B-cell leukemia/lymphoma 10
B02	Mm.257460	NM_009741	Bcl2	B-cell leukemia/lymphoma 2
B03	Mm.425593	NM_009742	Bcl2a1a	B-cell leukemia/lymphoma 2 related protein A1a
B04	Mm.238213	NM_009743	Bcl2l1	Bcl2-like 1
B05	Mm.25988	NM_013479	Bcl2l10	Bcl2-like 10
B06	Mm.141083	NM_009754	Bcl2l11	BCL2-like 11 (apoptosis facilitator)
B07	Mm.397611	NM_007537	Bcl2l2	Bcl2-like 2
B08	Mm.235081	NM_007544	Bid	BH3 interacting domain death agonist
B09	Mm.335659	NM_007465	Birc2	Baculoviral IAP repeat-containing 2
B10	Mm.2026	NM_007464	Birc3	Baculoviral IAP repeat-containing 3
B11	Mm.8552	NM_009689	Birc5	Baculoviral IAP repeat-containing 5
B12	Mm.440262	NM_016787	Bnip2	BCL2/adenovirus E1B interacting protein 2
C01	Mm.378890	NM_009760	Bnip3	BCL2/adenovirus E1B interacting protein 3
C02	Mm.29820	NM_009761	Bnip3l	BCL2/adenovirus E1B interacting protein 3-like
C03	Mm.3295	NM_016778	Bok	BCL2-related ovarian killer protein
C04	Mm.17629	NM_130859	Card10	Caspase recruitment domain family, member 10
C05	Mm.1051	NM_009807	Casp1	Caspase 1
C06	Mm.42163	NM_009808	Casp12	Caspase 12
C07	Mm.20940	NM_009809	Casp14	Caspase 14
C08	Mm.3921	NM_007610	Casp2	Caspase 2
C09	Mm.34405	NM_009810	Casp3	Caspase 3
C10	Mm.1569	NM_007609	Casp4	Caspase 4, apoptosis-related cysteine peptidase
C11	Mm.281379	NM_009811	Casp6	Caspase 6
C12	Mm.35687	NM_007611	Casp7	Caspase 7
D01	Mm.336851	NM_009812	Casp8	Caspase 8
D02	Mm.88829	NM_015733	Casp9	Caspase 9
D03	Mm.271833	NM_011611	Cd40	CD40 antigen
D04	Mm.4861	NM_011616	Cd40lg	CD40 ligand
D05	Mm.42228	NM_011617	Cd70	CD70 antigen
D06	Mm.336848	NM_009805	Cflar	CASP8 and FADD-like apoptosis regulator
D07	Mm.449	NM_007702	Cidea	Cell death-inducing DNA fragmentation factor, alpha subunit-like effector A
D08	Mm.466766	NM_009894	Cideb	Cell death-inducing DNA fragmentation factor, alpha subunit-like effector B
D09	Mm.218009	NM_009950	Cradd	CASP2 and RIPK1 domain containing adaptor with death domain
D10	Mm.319038	NM_010015	Dad1	Defender against cell death 1
D11	Mm.24103	NM_029653	Dapk1	Death associated protein kinase 1
D12	Mm.41433	NM_010044	Dffa	DNA fragmentation factor, alpha subunit
E01	Mm.388918	NM_007859	Dffb	DNA fragmentation factor, beta subunit
E02	Mm.46716	NM_023232	Diablo	Diablo homolog (Drosophila)
E03	Mm.5126	NM_010175	Fadd	Fas (TNFRSF6)-associated via death domain
E04	Mm.1626	NM_007987	Fas	Fas (TNF receptor superfamily member 6)
E05	Mm.3355	NM_010177	Fasl	Fas ligand (TNF superfamily, member 6)
E06	Mm.72235	NM_007836	Gadd45a	Growth arrest and DNA-damage-inducible 45 alpha
E07	Mm.275742	NM_010513	Igf1r	Insulin-like growth factor I receptor
E08	Mm.874	NM_010548	Il10	Interleukin 10
E09	Mm.103624	NM_010712	Lhx4	LIM homeobox protein 4

Position	UniGene	GenBank	Symbol	Description
E10	Mm.3122	NM_010736	Ltbr	Lymphotoxin B receptor
E11	Mm.196581	NM_011949	Mapk1	Mitogen-activated protein kinase 1
E12	Mm.1639	NM_008562	Mcl1	Myeloid cell leukemia sequence 1
F01	Mm.6898	NM_008670	Naip1	NLR family, apoptosis inhibitory protein 1
F02	Mm.89961	NM_010872	Naip2	NLR family, apoptosis inhibitory protein 2
F03	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
F04	Mm.275430	NM_080637	Nme5	Non-metastatic cells 5, protein expressed in (nucleoside-diphosphate kinase)
F05	Mm.28498	NM_172729	Nod1	Nucleotide-binding oligomerization domain containing 1
F06	Mm.475715	NM_030152	Nol3	Nucleolar protein 3 (apoptosis repressor with CARD domain)
F07	Mm.123211	NM_011130	Polb	Polymerase (DNA directed), beta
F08	Mm.347009	NM_011563	Prdx2	Peroxiredoxin 2
F09	Mm.24163	NM_023258	Pycard	PYD and CARD domain containing
F10	Mm.374799	NM_009068	Ripk1	Receptor (TNFRSF)-interacting serine-threonine kinase 1
F11	Mm.1293	NM_013693	Tnf	Tumor necrosis factor
F12	Mm.193430	NM_020275	Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b
G01	Mm.15383	NM_008764	Tnfrsf11b	Tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)
G02	Mm.1258	NM_011609	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G03	Mm.1062	NM_009425	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
G04	Mm.344820	NM_011614	Tnfsf12	Tumor necrosis factor (ligand) superfamily, member 12
G05	Mm.239514	NM_009421	Traf1	Tnf receptor-associated factor 1
G06	Mm.3399	NM_009422	Traf2	Tnf receptor-associated factor 2
G07	Mm.27431	NM_011632	Traf3	Tnf receptor-associated factor 3
G08	Mm.222	NM_011640	Trp53	Transformation related protein 53
G09	Mm.287450	NM_173378	Trp53bp2	Transformation related protein 53 binding protein 2
G10	Mm.20894	NM_011641	Trp63	Transformation related protein 63
G11	Mm.78015	NM_011642	Trp73	Transformation related protein 73
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

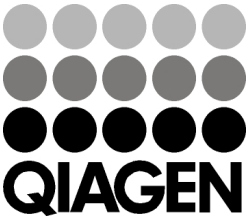
* Larger kit sizes available; please inquire.

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.

www.qiagen.com

Australia ▪ 1-800-243-800
Austria ▪ 0800/281010
Belgium ▪ 0800-79612
Brazil ▪ 0800-557779
Canada ▪ 800-572-9613
China ▪ 8621-3865-3865
Denmark ▪ 80-885945
Finland ▪ 0800-914416
France ▪ 01-60-920-930
Germany ▪ 02103-29-12000
Hong Kong ▪ 800 933 965
Ireland ▪ 1800 555 049
Italy ▪ 800-787980
Japan ▪ 03-6890-7300
Korea (South) ▪ 080-000-7145
Luxembourg ▪ 8002 2076
Mexico ▪ 01-800-7742-436
The Netherlands ▪ 0800 0229592
Norway ▪ 800-18859
Singapore ▪ 1800-742-4368
Spain ▪ 91-630-7050
Sweden ▪ 020-790282
Switzerland ▪ 055-254-22-11
UK ▪ 01293-422-911
USA ▪ 800-426-8157



Sample & Assay Technologies