RT² Profiler PCR Array (Rotor-Gene® Format)

Rhesus Macaque Apoptosis

Cat. no. 330231 PAQQ-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 Rhesus Macaque 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-containing 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 model systems and the propensity of a cell type to undergo apoptosis normally. Using real-time PCR, research studies 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	N/A	XM_001118598	ABL1	C-abl oncogene 1, non-receptor tyrosine kinase
A02	Mmu.1599	XM_001085265	AKT1	V-akt murine thymoma viral oncogene homolog 1
A03	Mmu.15956	XM_001086840	APAF1	Apoptotic peptidase activating factor 1
A04	Mmu.18791	XM_001115090	BAD	BCL2-associated agonist of cell death
A05	Mmu.2086	XM_001090384	BAG1	BCL2-associated athanogene
A06	N/A	XM_001104160	BAG3	BCL2-associated athanogene 3
A07	Mmu.14159	XM_001092290	BAG4	BCL2-associated athanogene 4
A08	Mmu.11738	XM_001090570	BAK1	BCL2-antagonist/killer 1
A09	N/A	XM_001112353	BAX	BCL2-associated X protein
A10	Mmu.16575	XM_001109281	BCL2A1	BCL2-related protein A1
A11	Mmu.16103	XM_001110285	BCL2L1	BCL2-like 1
A12	N/A	XM_001085850	BCL2L10	BCL2-like 10 (apoptosis facilitator)
B01	Mmu.14594	XM_001086237	BCL2L11	BCL2-like 11 (apoptosis facilitator)
B02	Mmu.3380	XM_001089568	BDNF	Brain-derived neurotrophic factor
B03	Mmu.12798	XM_001107948	BFAR	Bifunctional apoptosis regulator
B04	Mmu.1906	XM_001097089	BIRC2	Baculoviral IAP repeat containing 2
B05	Mmu.2837	XM_001096429	BIRC3	Baculoviral IAP repeat containing 3
B06	N/A	XM_001108164	BIRC5	Baculoviral IAP repeat containing 5
B07	Mmu.9645	XM_002799203	BIRC6	Baculoviral IAP repeat-containing 6
B08	Mmu.16357	XM_001096579	BNIP1	BCL2/adenovirus E1B 19kDa interacting protein 1
B09	Mmu.16319	XM_001100604	BNIP2	BCL2/adenovirus E1B 19kDa interacting protein 2
B10	Mmu.4295	NM_001037284	BNIP3L	BCL2/adenovirus E1B 19kDa interacting protein 3-like
B11	N/A	XM_001111494	CARD8	Caspase recruitment domain family, member 8
B12	Mmu.11508	XM_001094943	CASP1	Caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)
C01	Mmu.15917	XM_001097804	CASP10	Caspase 10, apoptosis-related cysteine peptidase
C02	N/A	XM_001111598	CASP14	Caspase 14, apoptosis-related cysteine peptidase
C03	N/A	XM_001087704	CASP2	Caspase-2-like
C04	Mmu.1947	XM_001083160	CASP3	Caspase 3, apoptosis-related cysteine peptidase
C05	Mmu.12625	XM_001100287	CASP4	Caspase 4, apoptosis-related cysteine peptidase
C06	N/A	XM_001100375	CASP5	Caspase 5, apoptosis-related cysteine peptidase
C07	Mmu.11428	XM_001090833	CASP7	Caspase 7, apoptosis-related cysteine peptidase
C08	N/A	XM_001091080	CASP8	Caspase 8, apoptosis-related cysteine peptidase
C09	N/A	XM_001082859	CASP9	Caspase 9, apoptosis-related cysteine peptidase
C10	Mmu.1817	XM_001104337	CD27	CD27 antigen-like
C11	N/A	XM_001104333	CD40	CD40 molecule, TNF receptor superfamily member 5
C12	Mmu.3581	NM_001032839	CD40LG	CD40 ligand
D01	N/A	XM_001088935	CD70	CD70 antigen-like
D02	Mmu.4393	NM_001194722	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
D03	Mmu.3649	XM_001096860	CFLAR	CASP8 and FADD-like apoptosis regulator
D04	N/A	XM_001094509	CIDEA	Cell death-inducing DFFA-like effector a
D05	Mmu.11725	XM_001105475	CRADD	CASP2 and RIPK1 domain containing adaptor with death domain
D06	Mmu.149	XM_001084983	DAPK1	Death-associated protein kinase 1
D07	N/A	XM_001102195	DFFA	DNA fragmentation factor, 45kDa, alpha polypeptide
D08	Mmu.649	NM_001032933	FAS	Fas (TNF receptor superfamily, member 6)
D09	Mmu.3579	NM_001032838	FASLG	Fas ligand (TNF superfamily, member 6)
D10	Mmu.10930	XM_001095413	GADD45A	Growth arrest and DNA-damage-inducible, alpha
D11	N/A	XM_001100407	IGF1R	Insulin-like growth factor 1 receptor
D12	Mmu.3374	NM_001044727	IL10	Interleukin 10
E01	Mmu.3415	NM_001047130	IL2	Interleukin 2
E02	Mmu.17556	XR_092351	LOC100426120	BCL2/adenovirus E1B 19 kDa protein-interacting protein 3-like
E03	N/A	XM_002803495	LOC693554	Serine/threonine-protein kinase B-raf-like
E04	N/A	XM_001083217	LOC695164	Tumor protein p73-like
E05	Mmu.8758	XM_002802530	LOC698160	Tumor necrosis factor receptor type 1-associated DEATH domain protein-like
E06	N/A	XM_002804163	LOC698788	Caspase-6-like
E07	N/A	XM_001095818	LOC707407	Apoptosis regulator Bcl-2-like
E08	N/A	XM_001100468	LOC708606	Protein FADD-like

Position	UniGene	GenBank	Symbol	Description
E09	Mmu.13649	XM_001104846	LOC714869	B-cell lymphoma/leukemia 10-like
E10	N/A	XM_001107490	LOC716650	Tumor necrosis factor receptor superfamily member 10B-like
E11	Mmu.10857	NM_001047148	LTA	Lymphotoxin alpha (TNF superfamily, member 1)
E12	Mmu.11472	XM_001103746	LTBR	Lymphotoxin beta receptor (TNFR superfamily, member 3)
F01	Mmu.13662	XM_001089600	MAPK1	Mitogen-activated protein kinase 1
F02	Mmu.4052	XM_001102283	MCL1	Myeloid cell leukemia sequence 1 (BCL2-related)
F03	N/A	NM_001142873	MYC	V-myc myelocytomatosis viral oncogene homolog (avian)
F04	N/A	XM_001093532	NAIP	NLR family, apoptosis inhibitory protein
F05	Mmu.10897	XM_001085719	NOD1	Nucleotide-binding oligomerization domain containing 1
F06	Mmu.14465	XM_001087572	NOL3	Nucleolar protein 3 (apoptosis repressor with CARD domain)
F07	N/A	XM_002800569	PRKCA	Protein kinase C, alpha
F08	Mmu.18725	XM_001112804	PYCARD	PYD and CARD domain containing
F09	Mmu.16218	XM_001084687	RIPK2	Receptor-interacting serine-threonine kinase 2
F10	Mmu.3364	NM_001047149	TNF	Tumor necrosis factor
F11	N/A	XM_001107790	TNFRSF10A	Tumor necrosis factor receptor superfamily, member 10a
F12	N/A	XM_001096915	TNFRSF11B	Tumor necrosis factor receptor superfamily, member 11b
G01	Mmu.12049	XM_001118232	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A
G02	Mmu.13423	XM_001103782	TNFRSF21	Tumor necrosis factor receptor superfamily, member 21
G03	Mmu.15187	XM_001093543	TNFRSF25	Tumor necrosis factor receptor superfamily, member 25
G04	N/A	XM_001096166	TNFRSF9	Tumor necrosis factor receptor superfamily, member 9
G05	Mmu.1012	XM_001084768	TNFSF10	Tumor necrosis factor (ligand) superfamily, member 10
G06	N/A	XM_001099524	TNFSF8	Tumor necrosis factor (ligand) superfamily, member 8
G07	Mmu.3286	NM_001047151	TP53	Tumor protein p53
G08	Mmu.12448	XM_001093747	TP53BP2	Tumor protein p53 binding protein, 2
G09	Mmu.1370	XM_001082535	TRAF3	TNF receptor-associated factor 3
G10	N/A	XM_001107048	TRAF4	TNF receptor-associated factor 4
G11	Mmu.15706	XM_001108970	TRAF5	TNF receptor-associated factor 5
G12	N/A	XM_001114854	XIAP	X-linked inhibitor of apoptosis
H01	Mmu.4974	NM_001033084	ACTB	Actin, beta
H02	Mmu.5037	NM_001047137	B2M	Beta-2-microglobulin
H03	Mmu.3145	XM_001105471	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mmu.12316	XM_001097691	LOC709186	Hypoxanthine-guanine phosphoribosyltransferase-like
H05	Mmu.2512	XM_001115079	RPL13A	Ribosomal protein L13A
H06	N/A	SA_00125	QGDC	Rhesus Macaque 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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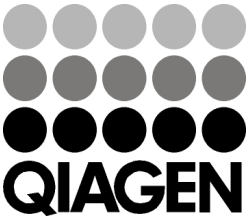

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