RT² Profiler PCR Array (Rotor-Gene® Format)

Rhesus Macaque Necrosis

Cat. no. 330231 PAQQ-141ZR

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 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.

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	Mmu.15244	XM_001092146	AIFM1	Apoptosis-inducing factor, mitochondrion-associated, 1
A02	Mmu.3464	NM_001032911	AR	Androgen receptor
A03	Mmu.10864	NM_001047145	ATP6V1G2	ATPase, H+ transporting, lysosomal 13kDa, V1 subunit G2
A04	N/A	XM_001112353	BAX	BCL2-associated X protein
A05	Mmu.2837	XM_001096429	BIRC3	Baculoviral IAP repeat containing 3
A06	N/A	XM_002804718	BMF	Bcl2 modifying factor
A07	Mmu.4295	NM_001037284	BNIP3L	BCL2/adenovirus E1B 19kDa interacting protein 3-like
A08	Mmu.11413	XM_001088481	CA9	Carbonic anhydrase IX
A09	Mmu.629	XM_001114153	CAPN1	Calpain 1, (mu/I) large subunit
A10	Mmu.12103	XM_001098172	CAPN2	Calpain 2, (m/II) large subunit
A11	N/A	XM_001103220	CAPN3	Calpain 3, (p94)
A12	Mmu.13620	XM_001082446	CAPN7	Calpain 7
B01	Mmu.12676	XM_001098220	CASP8AP2	Caspase 8 associated protein 2
B02	N/A	XM_001104333	CD40	CD40 molecule, TNF receptor superfamily member 5
B03	Mmu.9959	XM_001083654	CYBB	Cytochrome b-245, beta polypeptide (chronic granulomatous disease)
B04	N/A	XM_002802475	CYLD	Cylindromatosis (turban tumor syndrome)
B05	Mmu.16313	XM_001109950	DENND4A	DENN/MADD domain containing 4A
B06	Mmu.12523	XM_001118804	DPYSL4	Dihydropyrimidinase-like 4
B07	Mmu.14461	XM_001103720	EIF5B	Eukaryotic translation initiation factor 5B
B08	N/A	XM_001104146	FAF1	Fas (TNFRSF6) associated factor 1
B09	Mmu.649	NM_001032933	FAS	Fas (TNF receptor superfamily, member 6)
B10	Mmu.3579	NM_001032838	FASLG	Fas ligand (TNF superfamily, member 6)
B11	Mmu.13159	XM_001083413	FEM1B	Fem-1 homolog b (C. elegans)
B12	N/A	XM_001092246	FOXI1	Forkhead box I1
C01	N/A	XM_001087663	GALNT5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 5 (GalNAc-T5)
C02	Mmu.9730	XM_002805640	GLUD1	Glutamate dehydrogenase 1, mitochondrial-like
C03	Mmu.345	XM_001114827	GLUL	Glutamate-ammonia ligase
C04	Mmu.688	NM_001194205	H2AFX	H2A histone family, member X
C05	Mmu.18421	XM_001112802	HSPBAP1	HSPB (heat shock 27kDa) associated protein 1
C06	N/A	XM_001095498	IKBKG	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase gamma
C07	Mmu.17556	XR_092351	LOC100426120	BCL2/adenovirus E1B 19 kDa protein-interacting protein 3-like
C08	N/A	XM_001089060	LOC696748	Cytochrome b-245 light chain-like
C09	N/A	XM_002799723	LOC698077	Calpain-5-like
C10	Mmu.8758	XM_002802530	LOC698160	Tumor necrosis factor receptor type 1-associated DEATH domain protein-like
C11	Mmu.9839	XR_010878	LOC699341	Calpain small subunit 1-like
C12	N/A	XM_002808056	LOC700580	Leucine-rich repeat and death domain-containing protein-like
D01	Mmu.9707	XM_001095326	LOC702041	Growth factor receptor-bound protein 2-like
D02	Mmu.99	XM_001092976	LOC704611	Junctophilin-3-like
D03	Mmu.10054	XM_002808546	LOC706434	Calpain-6-like
D04	N/A	XM_001100468	LOC708606	Protein FADD-like
D05	Mmu.4316	XM_001100522	LOC711681	Beta-nerve growth factor-like
D06	Mmu.3054	XM_001101270	LOC712324	COMM domain-containing protein 4-like
D07	N/A	XM_001115064	LOC715707	Coiled-coil domain-containing protein 103-like
D08	Mmu.15463	XM_001117149	LOC721111	Paralemmin-like
D09	Mmu.15776	XM_001107325	MADD	MAP-kinase activating death domain
D10	Mmu.11151	XM_001111459	MAG	Myelin associated glycoprotein
D11	N/A	XM_002805797	MGEA5	Meningioma expressed antigen 5 (hyaluronidase)
D12	Mmu.3953	XM_001118427	MPG	N-methylpurine-DNA glycosylase
E01	Mmu.17494	NM_001130681	MYD88	Myeloid differentiation primary response gene (88)
E02	Mmu.12391	XM_001109277	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E03	Mmu.3794	XM_001090039	NGFR	Nerve growth factor receptor
E04	Mmu.4409	XM_002806337	NGFRAP1	Nerve growth factor receptor (TNFRSF16) associated protein 1
E05	Mmu.15254	XM_001090025	NOX1	NADPH oxidase 1
E06	Mmu.15733	XM_001105331	NOX4	NADPH oxidase 4
E07	Mmu.11258	XM_001090984	PARP1	Poly (ADP-ribose) polymerase 1

Position	UniGene	GenBank	Symbol	Description
E08	N/A	XM_001088314	PARP2	Poly (ADP-ribose) polymerase 2
E09	Mmu.10840	NM_001043386	PVR	Poliovirus receptor
E10	Mmu.11434	XM_001102253	PYGL	Phosphorylase, glycogen, liver
E11	Mmu.11445	XM_001116371	RAB25	RAB25, member RAS oncogene family
E12	Mmu.2163	NM_001032857	RHBD-1	Beta-defensin 1
F01	Mmu.13638	XM_001091986	RIPK1	Receptor (TNFRSF)-interacting serine-threonine kinase 1
F02	Mmu.16218	XM_001084687	RIPK2	Receptor-interacting serine-threonine kinase 2
F03	N/A	XM_001114079	RIPK3	Receptor-interacting serine-threonine kinase 3
F04	Mmu.4090	XM_001084544	SLC25A4	Solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 4
F05	Mmu.3203	XM_001104948	SP1	Sp1 transcription factor
F06	Mmu.14064	XM_001098177	SPATA2	Spermatogenesis associated 2
F07	N/A	XM_002798074	SYCP2	Synaptonemal complex protein 2
F08	Mmu.2003	XM_001097410	TMEM123	Transmembrane protein 123
F09	Mmu.938	NM_001038650	TMEM57	Transmembrane protein 57
F10	Mmu.3364	NM_001047149	TNF	Tumor necrosis factor
F11	N/A	XM_001107790	TNFRSF10A	Tumor necrosis factor receptor superfamily, member 10a
F12	Mmu.10029	NM_001043357	TNFRSF14	Tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator)
G01	N/A	XM_001106892	TNFRSF17	Tumor necrosis factor receptor superfamily, member 17
G02	N/A	XM_001090626	TNFRSF18	Tumor necrosis factor receptor superfamily, member 18
G03	N/A	XM_002808139	TNFRSF19	Tumor necrosis factor receptor superfamily member 19-like
G04	Mmu.12049	XM_001118232	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A
G05	Mmu.12099	XM_001105753	TNFRSF1B	Tumor necrosis factor receptor superfamily, member 1B
G06	Mmu.15187	XM_001093543	TNFRSF25	Tumor necrosis factor receptor superfamily, member 25
G07	N/A	XM_001090870	TNFRSF4	Tumor necrosis factor receptor superfamily, member 4
G08	N/A	XM_001118873	TNFRSF8	Tumor necrosis factor receptor superfamily, member 8
G09	Mmu.1012	XM_001084768	TNFSF10	Tumor necrosis factor (ligand) superfamily, member 10
G10	Mmu.19252	XM_001099617	TNFSF15	Tumor necrosis factor (ligand) superfamily, member 15
G11	Mmu.15706	XM_001108970	TRAF5	TNF receptor-associated factor 5
G12	Mmu.12942	XM_001104206	TXNL4B	Thioredoxin-like 4B
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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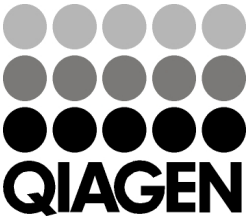

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