RT² Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

Rhesus Macaque Necrosis

Cat. no. 330231 PAQQ-141ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format A	Applied Biosystems® models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad® models iCycler®, iQ™5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf® Mastercycler® ep realplex models 2, 2s, 4, 4s; Stratagene® models Mx3005P®, Mx3000P®; Takara TP-800
RT² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT² Profiler PCR Array, Format H	Fluidigm® BioMark™

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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 formats A, C, D, E, F, and G are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products. RT² Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

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 (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT² Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	AIFM1	AR	ATP6V1G2	BAX	BIRC3	BMF	BNIP3L	CA9	CAPN1	CAPN2	CAPN3	CAPN7
B	CASP8AP2	CD40	CYBB	CYLD	DENND4A	DPYSL4	EIF5B	FAF1	FAS	FASLG	FEM1B	FOXI1
C	GALNT5	GLUD1	GLUL	H2AFX	HSPBAP1	IKBKG	LOC100426120	LOC696748	LOC698077	LOC698160	LOC699341	LRDD
D	GRB2	LOC704611	CAPN6	LOC708606	LOC711681	LOC712324	CCDC103	LOC721111	MADD	MAG	MGEA5	MPG
E	MYD88	NFKB1	NGFR	NGFRAP1	NOX1	NOX4	PARP1	PARP2	PVR	PYGL	RAB25	DEFB1
F	RIPK1	RIPK2	RIPK3	SLC25A4	SP1	SPATA2	SYCP2	TMEM123	TMEM57	TNF	TNFRSF10A	TNFRSF14
G	TNFRSF17	TNFRSF18	TNFRSF19	TNFRSF1A	TNFRSF1B	TNFRSF25	TNFRSF4	TNFRSF8	TNFSF10	TNFSF15	TRAF5	TXNL4B
H	ACTB	B2M	GAPDH	LOC709186	RPL13A	QGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description	Assay
A01	Mmu.30005	XM_001092146	AIFM1	Apoptosis-inducing factor, mitochondrion-associated, 1	PPQ06955B
A02	Mmu.3464	NM_001032911	AR	Androgen receptor	PPQ00190B
A03	Mmu.10864	NM_001047145	ATP6V1G2	ATPase, H+ transporting, lysosomal 13kDa, V1 subunit G2	PPQ15175A
A04	Mmu.30014	XM_001112353	BAX	BCL2-associated X protein	PPQ17501A
A05	Mmu.2837	XM_001096429	BIRC3	Baculoviral IAP repeat containing 3	PPQ06761B
A06	Mmu.28813	XM_002804718	BMF	Bcl2 modifying factor	PPQ69021A
A07	Mmu.4295	NM_001037284	BNIP3L	BCL2/adenovirus E1B 19kDa interacting protein 3-like	PPQ00333B
A08	Mmu.20194	XM_001088481	CA9	Carbonic anhydrase IX	PPQ02898B
A09	Mmu.629	XM_001114153	CAPN1	Calpain 1, (mu/I) large subunit	PPQ15998C
A10	Mmu.20725	XM_001098172	CAPN2	Calpain 2, (m/II) large subunit	PPQ07141B
A11	Mmu.28073	XM_001103220	CAPN3	Calpain 3, (p94)	PPQ10354C
A12	Mmu.22202	XM_001082446	CAPN7	Calpain 7	PPQ00792A
B01	Mmu.21273	XM_001098220	CASP8AP2	Caspase 8 associated protein 2	PPQ06661B
B02	Mmu.32748	XM_001104333	CD40	CD40 molecule, TNF receptor superfamily member 5	PPQ10248B
B03	Mmu.9959	XM_001083654	CYBB	Cytochrome b-245, beta polypeptide (chronic granulomatous disease)	PPQ02772B
B04	Mmu.20842	XM_002802475	CYLD	Cylindromatosis (turban tumor syndrome)	PPQ69015A
B05	Mmu.21824	XM_001109950	DENND4A	DENN/MADD domain containing 4A	PPQ11507A
B06	Mmu.21117	XM_001118804	DPYSL4	Dihydropyrimidinase-like 4	PPQ19715B
B07	Mmu.14461	XM_001103720	EIF5B	Eukaryotic translation initiation factor 5B	PPQ14383B
B08	Mmu.34310	XM_001104146	FAF1	Fas (TNFRSF6) associated factor 1	PPQ14561B
B09	Mmu.649	NM_001032933	FAS	Fas (TNF receptor superfamily, member 6)	PPQ00228B
B10	Mmu.3579	NM_001032838	FASLG	Fas ligand (TNF superfamily, member 6)	PPQ00061A
B11	Mmu.34414	XM_001083413	FEM1B	Fem-1 homolog b (C. elegans)	PPQ00951B
B12	N/A	XM_001092246	FOXI1	Forkhead box I1	PPQ05189A
C01	Mmu.26958	XM_001087663	GALNT5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 5 (GalNAc-T5)	PPQ03400A
C02	N/A	XR_010819	GLUD1	Glutamate dehydrogenase 1, mitochondrial-like	PPQ69032B
C03	Mmu.345	XM_001114827	GLUL	Glutamate-ammonia ligase	PPQ15569B
C04	Mmu.688	NM_001194205	H2AFX	H2A histone family, member X	PPQ07159B
C05	Mmu.18421	XM_001112802	HSPBAP1	HSPB (heat shock 27kDa) associated protein 1	PPQ15003B
C06	Mmu.22171	XM_001095498	IKBKG	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase gamma	PPQ05948A
C07	Mmu.17556	XR_092351	LOC100426120	BCL2/adenovirus E1B 19 kDa protein-interacting protein 3-like	PPQ69035B
C08	Mmu.25097	XM_001089060	LOC696748	Cytochrome b-245 light chain-like	PPQ02912A
C09	Mmu.29667	XM_002799723	LOC698077	Calpain-5-like	PPQ69009A
C10	Mmu.8758	XM_002802530	LOC698160	Tumor necrosis factor receptor type 1-associated DEATH domain protein-like	PPQ69016A
C11	N/A	XR_010878	LOC699341	Calpain small subunit 1-like	PPQ69033A
C12	Mmu.29705	XM_002808056	LRDD	Leucine-rich repeat and death domain-containing protein-like	PPQ69027A
D01	Mmu.4033	XM_015120312	GRB2	Growth factor receptor bound protein 2	PPQ06488B
D02	Mmu.99	XM_001092976	LOC704611	Junctophilin-3-like	PPQ08179C

Position	UniGene	GenBank	Symbol	Description	Assay
D03	Mmu.10054	XM_002808546	CAPN6	Calpain-6-like	PPQ69029A
D04	Mmu.26644	XM_001100468	LOC708606	Protein FADD-like	PPQ10827B
D05	Mmu.4316	XM_001100522	LOC711681	Beta-nerve growth factor-like	PPQ12776A
D06	Mmu.28004	XM_001101270	LOC712324	COMM domain-containing protein 4-like	PPQ69006B
D07	Mmu.25993	XM_001115064	CCDC103	Coiled-coil domain-containing protein 103-like	PPQ15417A
D08	Mmu.9775	XM_001117149	LOC721111	Paralemmin-like	PPQ18798B
D09	Mmu.26553	XM_001107325	MADD	MAP-kinase activating death domain	PPQ14035B
D10	Mmu.19955	XM_001111459	MAG	Myelin associated glycoprotein	PPQ17257C
D11	Mmu.9829	XM_002805797	MGEA5	Meningioma expressed antigen 5 (hyaluronidase)	PPQ69024A
D12	Mmu.3953	XM_001118427	MPG	N-methylpurine-DNA glycosylase	PPQ19464A
E01	Mmu.17494	NM_001130681	MYD88	Myeloid differentiation primary response gene (88)	PPQ02736C
E02	Mmu.3512	XM_001109277	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1	PPQ11928B
E03	Mmu.3794	XM_001090039	NGFR	Nerve growth factor receptor	PPQ00201C
E04	Mmu.4409	XM_002806337	NGFRAP1	Nerve growth factor receptor (TNFRSF16) associated protein 1	PPQ69025A
E05	N/A	XM_001090025	NOX1	NADPH oxidase 1	PPQ06038B
E06	Mmu.26470	XM_001105331	NOX4	NADPH oxidase 4	PPQ09067B
E07	Mmu.11258	XM_001090984	PARP1	Poly (ADP-ribose) polymerase 1	PPQ04313A
E08	Mmu.32273	XM_001088314	PARP2	Poly (ADP-ribose) polymerase 2	PPQ06426A
E09	Mmu.10840	NM_001043386	PVR	Poliovirus receptor	PPQ13539A
E10	Mmu.20207	XM_001102253	PYGL	Phosphorylase, glycogen, liver	PPQ09665A
E11	N/A	XM_001116371	RAB25	RAB25, member RAS oncogene family	PPQ16977B
E12	Mmu.2163	NM_001032857	DEFB1	Beta-defensin 1	PPQ00087B
F01	Mmu.22220	XM_001091986	RIPK1	Receptor (TNFRSF)-interacting serine-threonine kinase 1	PPQ10424B
F02	Mmu.27732	XM_001084687	RIPK2	Receptor-interacting serine-threonine kinase 2	PPQ02078A
F03	Mmu.27926	XM_001114079	RIPK3	Receptor-interacting serine-threonine kinase 3	PPQ15688B
F04	Mmu.4090	XM_001084544	SLC25A4	Solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 4	PPQ01743B
F05	Mmu.3203	XM_001104948	SP1	Sp1 transcription factor	PPQ06914C
F06	Mmu.22705	XM_001098177	SPATA2	Spermatogenesis associated 2	PPQ06984A
F07	Mmu.29913	XM_002798074	SYCP2	Synaptonemal complex protein 2	PPQ69008A
F08	Mmu.2003	XM_001097410	TMEM123	Transmembrane protein 123	PPQ06993A
F09	Mmu.938	NM_001038650	TMEM57	Transmembrane protein 57	PPQ00345A
F10	Mmu.3364	NM_001047149	TNF	Tumor necrosis factor	PPQ15261B
F11	Mmu.27782	XM_001107790	TNFRSF10A	Tumor necrosis factor receptor superfamily, member 10a	PPQ16130B
F12	Mmu.10029	NM_001043357	TNFRSF14	Tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator)	PPQ01698B
G01	Mmu.25245	XM_001106892	TNFRSF17	Tumor necrosis factor receptor superfamily, member 17	PPQ13126B
G02	N/A	XM_001090626	TNFRSF18	Tumor necrosis factor receptor superfamily, member 18	PPQ04808A
G03	Mmu.28506	XM_002808139	TNFRSF19	Tumor necrosis factor receptor superfamily member 19-like	PPQ69028A
G04	Mmu.20674	XM_001118232	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A	PPQ19344B
G05	Mmu.20720	XM_001105753	TNFRSF1B	Tumor necrosis factor receptor superfamily, member 1B	PPQ15251B
G06	Mmu.24755	XM_001093543	TNFRSF25	Tumor necrosis factor receptor superfamily, member 25	PPQ07609B
G07	Mmu.24791	XM_001090870	TNFRSF4	Tumor necrosis factor receptor superfamily, member 4	PPQ04887A
G08	N/A	XM_001118873	TNFRSF8	Tumor necrosis factor receptor superfamily, member 8	PPQ19754A
G09	Mmu.1012	XM_001084768	TNFSF10	Tumor necrosis factor (ligand) superfamily, member 10	PPQ01300B
G10	Mmu.19252	XM_001099617	TNFSF15	Tumor necrosis factor (ligand) superfamily, member 15	PPQ07239B
G11	Mmu.23625	XM_001108970	TRAF5	TNF receptor-associated factor 5	PPQ10678B
G12	Mmu.21546	XM_001104206	TXNL4B	Thioredoxin-like 4B	PPQ09656C
H01	Mmu.11089	NM_001033084	ACTB	Actin, beta	PPQ00182A
H02	Mmu.5037	NM_001047137	B2M	Beta-2-microglobulin	PPQ13262B
H03	Mmu.3145	NM_001195426	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase	PPQ00249A
H04	Mmu.12316	XM_001097691	LOC709186	Hypoxanthine-guanine phosphoribosyltransferase-like	PPQ11206B
H05	Mmu.2512	XM_001115079	RPL13A	Ribosomal protein L13A	PPQ00210B
H06	N/A	SA_00125	QGDC	Rhesus Macaque Genomic DNA Contamination	PPQ66718A
H07	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H08	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H09	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H10	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H11	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H12	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A

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 qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with real-time cyclers that do not require a reference dye, including: Bio-Rad models CFX96, CFX384, DNA Engine Opticon 2; Bio-Rad/MJ Research Chromo4; Roche LightCycler 480 (96-well and 384-well); all other cyclers	330500
RT² SYBR Green ROX™ qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Applied Biosystems models 5700, 7000, 7300, 7500 [Standard and FAST], 7700, 7900HT 96-well block [Standard and FAST] and 384-well block, StepOnePlus; Eppendorf Mastercycler ep realplex models 2, 2S, 4, 4S; Stratagene models Mx3000P, Mx3005P, Mx4000; Takara TP-800	330520
RT² SYBR Green Fluor qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Bio-Rad models iCycler, iQ5, MyiQ, MyiQ2	330510

* 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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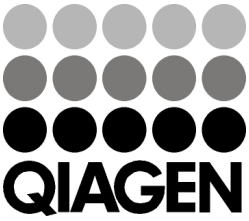

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