RT² Profiler PCR Array (Rotor-Gene® Format)

Human Necrosis

Cat. no. 330231 PAHS-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 Human 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*.

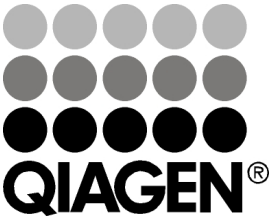
Shipping and storage

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	Hs.424932	NM_004208	AIFM1	Apoptosis-inducing factor, mitochondrion-associated, 1
A02	Hs.249227	NM_130463	ATP6V1G2	ATPase, H+ transporting, lysosomal 13kDa, V1 subunit G2
A03	Hs.624291	NM_004324	BAX	BCL2-associated X protein
A04	Hs.591054	NM_001196	BID	BH3 interacting domain death agonist
A05	Hs.127799	NM_001165	BIRC3	Baculoviral IAP repeat containing 3
A06	Hs.591104	NM_033503	BMF	Bcl2 modifying factor
A07	Hs.131226	NM_004331	BNIP3L	BCL2/adenovirus E1B 19kDa interacting protein 3-like
A08	Hs.235095	NM_017891	C1orf159	Chromosome 1 open reading frame 159
A09	Hs.502842	NM_005186	CAPN1	Calpain 1, (mu/I) large subunit
A10	Hs.350899	NM_001748	CAPN2	Calpain 2, (m/II) large subunit
A11	Hs.143261	NM_173090	CAPN3	Calpain 3, (p94)
A12	Hs.248153	NM_004055	CAPN5	Calpain 5
B01	Hs.496593	NM_014289	CAPN6	Calpain 6
B02	Hs.631920	NM_014296	CAPN7	Calpain 7
B03	Hs.515371	NM_001749	CAPNS1	Calpain, small subunit 1
B04	Hs.558218	NM_012115	CASP8AP2	Caspase 8 associated protein 2
B05	Hs.514222	NM_213607	CCDC103	Coiled-coil domain containing 103
B06	Hs.472860	NM_001250	CD40	CD40 molecule, TNF receptor superfamily member 5
B07	Hs.351327	NM_017828	COMMD4	COMM domain containing 4
B08	Hs.292356	NM_000397	CYBB	Cytochrome b-245, beta polypeptide
B09	Hs.578973	NM_015247	CYLD	Cylindromatosis (turban tumor syndrome)
B10	Hs.32949	NM_005218	DEFB1	Defensin, beta 1
B11	Hs.654567	NM_005848	DENND4A	DENN/MADD domain containing 4A
B12	Hs.100058	NM_006426	DPYSL4	Dihydropyrimidinase-like 4
C01	Hs.302017	NM_021783	EDA2R	Ectodysplasin A2 receptor
C02	Hs.158688	NM_015904	EIF5B	Eukaryotic translation initiation factor 5B
C03	Hs.86131	NM_003824	FADD	Fas (TNFRSF6)-associated via death domain
C04	Hs.530402	NM_007051	FAF1	Fas (TNFRSF6) associated factor 1
C05	Hs.244139	NM_000043	FAS	Fas (TNF receptor superfamily, member 6)
C06	Hs.2007	NM_000639	FASLG	Fas ligand (TNF superfamily, member 6)
C07	Hs.362733	NM_015322	FEM1B	Fem-1 homolog b (C. elegans)
C08	Hs.87236	NM_012188	FOXI1	Forkhead box I1
C09	Hs.513522	NM_004960	FUS	Fused in sarcoma
C10	Hs.269027	NM_014568	GALNT5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 5 (GalNAc-T5)
C11	Hs.500409	NM_005271	GLUD1	Glutamate dehydrogenase 1
C12	Hs.518525	NM_002065	GLUL	Glutamate-ammonia ligase
D01	Hs.444356	NM_002086	GRB2	Growth factor receptor-bound protein 2
D02	Hs.29169	NM_024610	HSPBAP1	HSPB (heat shock 27kDa) associated protein 1
D03	Hs.43505	NM_003639	IKBKG	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase gamma
D04	Hs.592068	NM_020655	JPH3	Junctophilin 3
D05	Hs.484111	NM_014592	KCNIP1	Kv channel interacting protein 1
D06	Hs.82548	NM_003682	MADD	MAP-kinase activating death domain
D07	Hs.643440	NM_002361	MAG	Myelin associated glycoprotein
D08	Hs.500842	NM_012215	MGEA5	Meningioma expressed antigen 5 (hyaluronidase)
D09	Hs.82116	NM_002468	MYD88	Myeloid differentiation primary response gene (88)
D10	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
D11	Hs.2561	NM_002506	NGF	Nerve growth factor (beta polypeptide)
D12	Hs.415768	NM_002507	NGFR	Nerve growth factor receptor
E01	Hs.448588	NM_014380	NGFRAP1	Nerve growth factor receptor (TNFRSF16) associated protein 1
E02	Hs.592227	NM_007052	NOX1	NADPH oxidase 1
E03	Hs.371036	NM_016931	NOX4	NADPH oxidase 4
E04	Hs.553833	NM_001004467	OR10J3	Olfactory receptor, family 10, subfamily J, member 3
E05	Hs.177766	NM_001618	PARP1	Poly (ADP-ribose) polymerase 1
E06	Hs.409412	NM_005484	PARP2	Poly (ADP-ribose) polymerase 2
E07	Hs.592290	NM_145886	PIDD	P53-induced death domain protein
E08	Hs.356331	NM_021130	PPIA	Peptidylprolyl isomerase A (cyclophilin A)

Position	UniGene	GenBank	Symbol	Description
E09	Hs.581725	NM_005038	PPID	Peptidylprolyl isomerase D
E10	Hs.171844	NM_006505	PVR	Poliovirus receptor
E11	Hs.282417	NM_002863	PYGL	Phosphorylase, glycogen, liver
E12	Hs.632469	NM_020387	RAB25	RAB25, member RAS oncogene family
F01	Hs.519842	NM_003804	RIPK1	Receptor (TNFRSF)-interacting serine-threonine kinase 1
F02	Hs.103755	NM_003821	RIPK2	Receptor-interacting serine-threonine kinase 2
F03	Hs.268551	NM_006871	RIPK3	Receptor-interacting serine-threonine kinase 3
F04	Hs.442337	NM_176823	S100A7A	S100 calcium binding protein A7A
F05	Hs.246506	NM_001151	SLC25A4	Solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 4
F06	Hs.620754	NM_138473	SP1	Sp1 transcription factor
F07	Hs.48513	NM_006038	SPATA2	Spermatogenesis associated 2
F08	Hs.202676	NM_014258	SYCP2	Synaptonemal complex protein 2
F09	Hs.503709	NM_052932	TMEM123	Transmembrane protein 123
F10	Hs.189782	NM_018202	TMEM57	Transmembrane protein 57
F11	Hs.241570	NM_000594	TNF	Tumor necrosis factor
F12	Hs.591834	NM_003844	TNFRSF10A	Tumor necrosis factor receptor superfamily, member 10a
G01	Hs.512898	NM_003820	TNFRSF14	Tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator)
G02	Hs.2556	NM_001192	TNFRSF17	Tumor necrosis factor receptor superfamily, member 17
G03	Hs.279594	NM_001065	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A
G04	Hs.256278	NM_001066	TNFRSF1B	Tumor necrosis factor receptor superfamily, member 1B
G05	Hs.462529	NM_003790	TNFRSF25	Tumor necrosis factor receptor superfamily, member 25
G06	Hs.129780	NM_003327	TNFRSF4	Tumor necrosis factor receptor superfamily, member 4
G07	Hs.1314	NM_001243	TNFRSF8	Tumor necrosis factor receptor superfamily, member 8
G08	Hs.478275	NM_003810	TNFSF10	Tumor necrosis factor (ligand) superfamily, member 10
G09	Hs.241382	NM_005118	TNFSF15	Tumor necrosis factor (ligand) superfamily, member 15
G10	Hs.460996	NM_003789	TRADD	TNFRSF1A-associated via death domain
G11	Hs.522506	NM_021138	TRAF2	TNF receptor-associated factor 2
G12	Hs.134406	NM_017853	TXNL4B	Thioredoxin-like 4B
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human 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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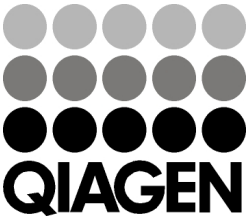

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