

# RT<sup>2</sup> Profiler PCR Array (Rotor-Gene<sup>®</sup> Format)

## Rhesus Macaque Autophagy

Cat. no. 330231 PAQQ-084ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

### Description

The Rhesus Macaque Autophagy RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes involved in autophagy, an intracellular catabolic process that destroys a cell's own damaged proteins and organelles via the lysosome. Autophagy has been shown to play roles in a wide variety of normal physiological processes including energy metabolism, organelle turnover, growth regulation, and aging. Impaired autophagy can lead to diseases such as cardiomyopathy and cancer. The array includes genes that encode components of the molecular machinery and key regulators modulating autophagy in response to both extracellular and intracellular signals. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in autophagy with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

### Shipping and storage

RT<sup>2</sup> 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 RT<sup>2</sup> 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: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Mmu.1599	XM_001085265	AKT1	V-akt murine thymoma viral oncogene homolog 1
A02	Mmu.15771	XM_001112256	AMBRA1	Autophagy/beclin-1 regulator 1
A03	Mmu.4790	XM_002803170	APP	Amyloid beta (A4) precursor protein
A04	Mmu.15894	XM_001114700	ATG16L1	ATG16 autophagy related 16-like 1 (S. cerevisiae)
A05	N/A	XM_001110048	ATG16L2	ATG16 autophagy related 16-like 2 (S. cerevisiae)
A06	Mmu.403	XM_001104361	ATG3	ATG3 autophagy related 3 homolog (S. cerevisiae)
A07	Mmu.13888	XM_001096924	ATG4A	ATG4 autophagy related 4 homolog A (S. cerevisiae)
A08	Mmu.12776	XM_001086456	ATG4C	ATG4 autophagy related 4 homolog C (S. cerevisiae)
A09	N/A	XM_001101860	ATG4D	ATG4 autophagy related 4 homolog D (S. cerevisiae)
A10	Mmu.11838	XM_001088076	ATG5	ATG5 autophagy related 5 homolog (S. cerevisiae)
A11	Mmu.13345	XM_001087688	ATG7	ATG7 autophagy related 7 homolog (S. cerevisiae)
A12	Mmu.15907	XM_001098187	ATG9A	ATG9 autophagy related 9 homolog A (S. cerevisiae)
B01	N/A	XM_001100591	ATG9B	ATG9 autophagy related 9 homolog B (S. cerevisiae)
B02	Mmu.18791	XM_001115090	BAD	BCL2-associated agonist of cell death
B03	Mmu.11738	XM_001090570	BAK1	BCL2-antagonist/killer 1
B04	N/A	XM_001112353	BAX	BCL2-associated X protein
B05	Mmu.16103	XM_001110285	BCL2L1	BCL2-like 1
B06	Mmu.2269	XM_001111787	BECN1	Beclin 1, autophagy related
B07	Mmu.1947	XM_001083160	CASP3	Caspase 3, apoptosis-related cysteine peptidase
B08	N/A	XM_001091080	CASP8	Caspase 8, apoptosis-related cysteine peptidase
B09	Mmu.1136	XM_001085433	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)
B10	N/A	XR_012927	CLN3	Battenin-like
B11	Mmu.4337	XM_002805255	CTSB	Cathepsin B
B12	Mmu.2920	XM_001091601	CTSD	Cathepsin D
C01	Mmu.2390	NM_001042645	CXCR4	Chemokine (C-X-C motif) receptor 4
C02	Mmu.2960	XM_001086176	DAP	Death-associated protein
C03	Mmu.149	XM_001084983	DAPK1	Death-associated protein kinase 1
C04	Mmu.19012	XM_001093215	DRAM1	DNA-damage regulated autophagy modulator 1
C05	Mmu.13969	XM_001094493	EIF2AK3	Eukaryotic translation initiation factor 2-alpha kinase 3
C06	Mmu.18385	XM_001093301	EIF4G1	Eukaryotic translation initiation factor 4 gamma, 1
C07	Mmu.3492	XM_001097228	ESR1	Estrogen receptor 1
C08	Mmu.649	NM_001032933	FAS	Fas (TNF receptor superfamily, member 6)
C09	Mmu.11238	XM_001109980	GAA	Glucosidase, alpha; acid
C10	N/A	XM_001086014	GABARAP	GABA(A) receptor-associated protein
C11	Mmu.4321	XM_001104154	GABARAPL2	GABA(A) receptor-associated protein-like 2
C12	Mmu.18720	XM_001101719	HDAC6	Histone deacetylase 6
D01	Mmu.11567	XM_001111597	HGS	Hepatocyte growth factor-regulated tyrosine kinase substrate
D02	Mmu.3373	NM_001032905	IFNG	Interferon-gamma
D03	Mmu.4531	XM_001094251	IGF1	Insulin-like growth factor 1 (somatomedin C)
D04	Mmu.2066	XM_001087801	LAMP1	Lysosomal-associated membrane protein 1
D05	Mmu.17556	XR_092351	LOC100426120	BCL2/adenovirus E1B 19 kDa protein-interacting protein 3-like
D06	N/A	XR_009968	LOC694767	Histone deacetylase 1-like
D07	Mmu.9095	XR_010145	LOC695913	Heat shock protein HSP 90-alpha-like
D08	Mmu.1142	XR_010348	LOC696765	Autophagy-related protein 12-like
D09	N/A	XM_001095818	LOC707407	Apoptosis regulator Bcl-2-like
D10	N/A	XM_001104172	LOC707439	Microtubule-associated proteins 1A/1B light chain 3A-like
D11	N/A	XM_002801763	LOC708080	Cathepsin S-like
D12	N/A	XM_001100468	LOC708606	Protein FADD-like
E01	Mmu.395	XM_001105326	LOC709746	Serine/threonine-protein kinase ULK1-like
E02	N/A	XM_001111368	LOC711835	Autophagy-related protein 10-like
E03	Mmu.1867	XM_001115102	LOC717640	Gamma-aminobutyric acid receptor-associated protein-like 1-like
E04	Mmu.18403	XM_002799118	LOC717813	Cysteine protease ATG4B-like
E05	N/A	XM_001112350	LOC718945	WD repeat domain phosphoinositide-interacting protein 1-like
E06	Mmu.13188	XM_001112423	LOC718976	Mitogen-activated protein kinase 14-like
E07	Mmu.1859	XM_001086754	MAP1LC3B	Microtubule-associated protein 1 light chain 3 beta
E08	Mmu.3822	XM_001108815	MAPK8	Mitogen-activated protein kinase 8

Position	UniGene	GenBank	Symbol	Description
E09	Mmu.3731	XM_001115803	MAPT	Microtubule-associated protein tau
E10	Mmu.12391	XM_001109277	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E11	N/A	XM_002800888	NPC1	Niemann-Pick disease, type C1
E12	Mmu.9657	XM_001096631	PARK7	Protein DJ-1-like
F01	Mmu.12705	XM_001082892	PIK3C3	Phosphoinositide-3-kinase, class 3
F02	Mmu.13833	XM_001113960	PIK3CB	Phosphoinositide-3-kinase, catalytic, beta polypeptide
F03	Mmu.14859	XM_001091153	PIK3CG	Phosphoinositide-3-kinase, catalytic, gamma polypeptide
F04	N/A	XM_002802944	PIK3R4	Phosphoinositide-3-kinase, regulatory subunit 4
F05	Mmu.12751	XM_001086285	PRKAA1	Protein kinase, AMP-activated, alpha 1 catalytic subunit
F06	Mmu.13232	XM_001088635	PSEN1	Presenilin 1
F07	Mmu.12999	XM_001102542	PTEN	Phosphatase and tensin homolog
F08	Mmu.1361	XM_001087593	RAB24	RAB24, member RAS oncogene family
F09	Mmu.12862	XM_001100383	RB1	Retinoblastoma 1
F10	Mmu.2827	XM_001102539	RB1CC1	RB1-inducible coiled-coil 1
F11	Mmu.18391	XM_001113240	RGSI9	Regulator of G-protein signaling 19
F12	Mmu.1022	XM_001109701	RPS6KB1	Ribosomal protein S6 kinase, 70kDa, polypeptide 1
G01	Mmu.445	XM_001095402	SNCA	Alpha-synuclein-like
G02	Mmu.12133	XM_001102347	SQSTM1	Sequestosome 1
G03	Mmu.3765	XM_001100842	TGFB1	Transforming growth factor, beta 1
G04	N/A	XM_001095155	TGM2	Transglutaminase 2 (C polypeptide, protein-glutamine-gamma-glutamyltransferase)
G05	Mmu.3819	NM_001130431	TLR9	Toll-like receptor 9
G06	N/A	XM_001112694	TM9SF1	Transmembrane 9 superfamily member 1
G07	Mmu.18650	XM_001091064	TMEM74	Transmembrane protein 74
G08	Mmu.3364	NM_001047149	TNF	Tumor necrosis factor
G09	Mmu.1012	XM_001084768	TNFSF10	Tumor necrosis factor (ligand) superfamily, member 10
G10	Mmu.3286	NM_001047151	TP53	Tumor protein p53
G11	N/A	XM_001099375	ULK2	Unc-51-like kinase 2 (C. elegans)
G12	Mmu.13509	XM_001086725	UVRAG	UV radiation resistance associated gene
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, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> SYBR Green ROX <sup>™</sup> 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.

RT<sup>2</sup> 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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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