RT² Profiler PCR Array (Rotor-Gene® Format)

Rhesus Macaque Ubiquitination (Ubiquitylation) Pathway

Cat. no. 330231 PAQQ-079ZR

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 Ubiquitination or Ubiquitylation Pathway RT² Profiler PCR Array profiles the expression of 84 key genes involved in the regulated degradation of cellular proteins by the ubiquitin-proteasome system. Disruption of the proteasomal degradation pathway has been implicated in a wide range of human diseases, such as cancer, diabetes and cardiovascular and neurodegenerative diseases. The array includes ubiquitin-activating enzymes (E1), ubiquitin-conjugating enzymes (E2), and ubiquitin ligases (E3). These enzymes have also been sub-categorized as regulators of key cellular processes, such as apoptosis, the cell cycle and transcription. A set of controls present on each array enables data analysis using the ΔΔCT method of relative quantification and assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably analyze expression of a focused panel of genes involved in ubiquitin degradation pathway with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

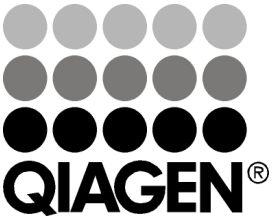
Shipping and storage

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.



Sample & Assay Technologies

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.1688	XM_001112301	ANAPC11	Anaphase-promoting complex subunit 11-like
A02	Mmu.19914	XM_001090195	ANAPC2	Anaphase promoting complex subunit 2
A03	Mmu.21936	XM_001087688	ATG7	ATG7 autophagy related 7 homolog (S. cerevisiae)
A04	Mmu.26908	XM_001084740	BARD1	BRCA1 associated RING domain 1
A05	Mmu.17471	NM_001114949	BRCA1	Breast cancer 1, early onset
A06	Mmu.21786	XM_001097957	BRCC3	BRCA1/BRCA2-containing complex, subunit 3
A07	Mmu.28657	XM_002805789	BTRC	Beta-transducin repeat containing E3 ubiquitin protein ligase
A08	Mmu.30036	XM_001104812	CBL	Cas-Br-M (murine) ecotropic retroviral transforming sequence
A09	Mmu.9717	XM_002803512	CUL1	Cullin 1
A10	Mmu.22177	XM_001087735	CUL2	Cullin 2
A11	Mmu.22552	XM_001109745	CUL3	Cullin 3
A12	Mmu.3258	XM_001086195	CUL4B	Cullin 4B
B01	Mmu.26452	XM_001103587	CUL5	Cullin 5
B02	Mmu.23329	XM_001088003	CUL7	Cullin 7
B03	Mmu.21140	XM_001082958	DDB1	Damage-specific DNA binding protein 1, 127kDa
B04	Mmu.23533	XM_002808316	DZIP3	E3 ubiquitin-protein ligase DZIP3-like
B05	Mmu.28476	XM_001082360	FBXO3	F-box protein 3
B06	Mmu.20609	XM_001086503	FBXO31	F-box protein 31
B07	Mmu.2644	XM_001088308	FBXO4	F-box protein 4
B08	Mmu.26121	XM_001084872	FBXW10	F-box and WD repeat domain containing 10
B09	Mmu.25629	XM_001108547	FBXW9	F-box and WD repeat domain containing 9
B10	Mmu.32347	XM_001096775	HECW1	HECT, C2 and WW domain containing E3 ubiquitin protein ligase 1
B11	Mmu.11124	XM_001088987	HUWE1	HECT, UBA and WWE domain containing 1
B12	Mmu.28561	XM_002800991	LOC100425016	Ubiquitin-conjugating enzyme E2 R1-like
C01	Mmu.9813	XM_002804538	LOC694667	Ubiquitin-conjugating enzyme E2 D2-like
C02	Mmu.29784	XM_002808017	LOC697155	E3 ubiquitin-protein ligase HECW2-like
C03	Mmu.28952	XM_002808385	LOC698984	Cullin-9-like
C04	Mmu.922	XM_001089338	LOC701036	Ubiquitin-conjugating enzyme E2 E1-like
C05	N/A	XM_001089803	LOC701507	Ubiquitin-conjugating enzyme E2 R2-like
C06	Mmu.24263	XM_001090152	LOC701870	Von Hippel-Lindau disease tumor suppressor-like
C07	Mmu.19744	XM_001091222	LOC702912	Protein ariadne-1 homolog
C08	N/A	XM_001094634	LOC703550	S-phase kinase-associated protein 1-like
C09	Mmu.23669	XM_001099588	LOC710899	E3 ubiquitin-protein ligase parkin-like
C10	Mmu.446	XM_002808152	LOC714302	Cullin-4A-like
C11	Mmu.26182	XM_001117702	LOC721528	Ubiquitin-conjugating enzyme E2 G1-like
C12	Mmu.11534	XM_001089783	MARCH5	Membrane-associated ring finger (C3HC4) 5
D01	Mmu.31140	NM_001266402	MDM2	Mdm2 p53 binding protein homolog (mouse)
D02	Mmu.4788	XM_001092086	MIB1	Mindbomb homolog 1 (Drosophila)
D03	Mmu.27453	XM_001093903	MOCS3	Molybdenum cofactor synthesis 3
D04	Mmu.22231	XM_001096167	MUL1	Mitochondrial E3 ubiquitin protein ligase 1
D05	Mmu.23495	XM_001085059	NAE1	NEDD8 activating enzyme E1 subunit 1
D06	N/A	XM_001098135	NEDD8	Neural precursor cell expressed, developmentally down-regulated 8
D07	Mmu.22117	XM_001104796	RFWD2	E3 ubiquitin-protein ligase RFWD2-like
D08	Mmu.24222	XM_001106313	RNF123	Ring finger protein 123
D09	Mmu.19873	XM_001084777	RNF148	Ring finger protein 148
D10	Mmu.672	XM_001109956	SAE1	SUMO1 activating enzyme subunit 1
D11	Mmu.22434	XM_001093834	SKP2	S-phase kinase-associated protein 2 (p45)
D12	Mmu.32101	NM_001257631	SMURF1	SMAD specific E3 ubiquitin protein ligase 1
E01	Mmu.25983	XM_001109913	SMURF2	SMAD specific E3 ubiquitin protein ligase 2
E02	Mmu.10137	XM_001086501	STUB1	STIP1 homology and U-box containing protein 1, E3 ubiquitin protein ligase
E03	Mmu.19284	XM_001114254	SYVN1	Synovial apoptosis inhibitor 1, synoviolin
E04	Mmu.18639	NM_001194059	TMEM189	Transmembrane protein 189
E05	Mmu.3286	NM_001047151	TP53	Tumor protein p53
E06	Mmu.2813	XM_001092372	UBA1	Ubiquitin-like modifier activating enzyme 1
E07	Mmu.13107	XM_001091974	UBA2	Ubiquitin-like modifier activating enzyme 2
E08	Mmu.32389	XM_001088171	UBA3	Ubiquitin-like modifier activating enzyme 3

Position	UniGene	GenBank	Symbol	Description
E09	Mmu.28903	XM_002804103	UBA6	Ubiquitin-like modifier activating enzyme 6
E10	Mmu.20021	XM_001105981	UBA7	Ubiquitin-like modifier activating enzyme 7
E11	Mmu.839	XM_001082047	UBE2A	Ubiquitin-conjugating enzyme E2A
E12	Mmu.2430	NM_001194433	UBE2B	Ubiquitin-conjugating enzyme E2B
F01	N/A	XM_001083155	UBE2C	Ubiquitin-conjugating enzyme E2C
F02	Mmu.890	XM_001097762	UBE2D1	Ubiquitin-conjugating enzyme E2D 1
F03	Mmu.4221	XM_001109666	UBE2D3	Ubiquitin-conjugating enzyme E2 D3-like
F04	Mmu.18684	XM_001089978	UBE2E2	Ubiquitin-conjugating enzyme E2E 2
F05	Mmu.1876	XM_001100742	UBE2E3	Ubiquitin-conjugating enzyme E2 E3-like
F06	Mmu.13402	XM_001085096	UBE2F	Ubiquitin-conjugating enzyme E2F (putative)
F07	Mmu.19159	XM_001101137	UBE2G2	Ubiquitin-conjugating enzyme E2G 2
F08	Mmu.995	XM_001093712	UBE2H	Ubiquitin-conjugating enzyme E2H
F09	Mmu.10576	XM_001118584	UBE2I	Ubiquitin-conjugating enzyme E2I
F10	Mmu.1281	XM_001096217	UBE2J1	Ubiquitin-conjugating enzyme E2, J1, U
F11	Mmu.24789	XM_001092754	UBE2J2	Ubiquitin-conjugating enzyme E2 J2-like
F12	Mmu.4081	XM_001092929	UBE2K	Ubiquitin-conjugating enzyme E2K
G01	Mmu.1675	XM_001087183	UBE2L3	Ubiquitin-conjugating enzyme E2L 3
G02	Mmu.19225	XM_001099932	UBE2M	Ubiquitin-conjugating enzyme E2M
G03	Mmu.2752	XM_001111833	UBE2Q1	Ubiquitin-conjugating enzyme E2Q family member 1
G04	Mmu.20815	XM_001087564	UBE2S	Ubiquitin-conjugating enzyme E2S
G05	Mmu.21550	XM_002808256	UBE2T	Ubiquitin-conjugating enzyme E2 T-like
G06	Mmu.20584	XM_001085749	UBE2W	Ubiquitin-conjugating enzyme E2W (putative)
G07	Mmu.26065	XM_001088335	UBE2Z	Ubiquitin-conjugating enzyme E2 Z-like
G08	Mmu.12182	XM_001108510	UBE3A	Ubiquitin protein ligase E3A
G09	Mmu.24744	XM_001101836	UBE4B	Ubiquitination factor E4B
G10	Mmu.2057	XM_001105721	UBR1	Ubiquitin protein ligase E3 component n-recognin 1
G11	Mmu.20747	XM_001088074	UBR2	Ubiquitin protein ligase E3 component n-recognin 2
G12	Mmu.1001	XM_001083173	WWP1	WW domain containing E3 ubiquitin protein ligase 1
H01	Mmu.11089	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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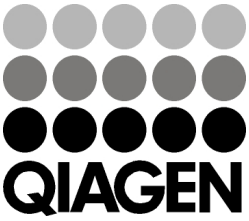

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