

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

Mouse Ubiquitination (Ubiquitinylation)

Cat. no. 330231 PAMM-079ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² 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
RT ² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT ² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT ² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT ² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT ² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT ² Profiler PCR Array, Format H	Fluidigm® BioMark™



Sample & Assay Technologies

Description

The Mouse 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 Mouse 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. Using real-time PCR, you 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 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	Anapc11	Anapc2	Arih1	Atg7	Bard1	Brc1	Brc3	Btrc	Cbl	Cdc34	Cul1	Cul2
B	Cul3	Cul4a	Cul4b	Cul5	Cul7	Cul9	Ddb1	Dzip3	Fbxo3	Fbxo31	Fbxo4	Fbxw10
C	Fbxw9	Hecw1	Hecw2	Herc6	Huwe1	March5	Mdm2	Mib1	Mocs3	Mul1	Nae1	Nedd8
D	Park2	Rfwd2	Rnf123	Rnf148	Sae1	Skp1a	Skp2	Smurf1	Smurf2	Stub1	Sym1	Tmem189
E	Trp53	Uba1	Uba2	Uba3	Uba5	Uba6	Ube2a	Ube2b	Ube2c	Ube2d1	Ube2d2	Ube2d3
F	Ube2e1	Ube2e2	Ube2e3	Ube2g1	Ube2g2	Ube2h	Ube2i	Ube2j1	Ube2j2	Ube2k	Ube2l3	Ube2m
G	Ube2n	Ube2q1	Ube2r2	Ube2s	Ube2t	Ube2w	Ube2z	Ube4b	Ubr1	Ubr2	Vhl	Wwp1
H	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Mm.21645	NM_025389	Anapc11	Anaphase promoting complex subunit 11
A02	Mm.291624	NM_175300	Anapc2	Anaphase promoting complex subunit 2
A03	Mm.305925	NM_019927	Arih1	Ariadne ubiquitin-conjugating enzyme E2 binding protein homolog 1 (Drosophila)
A04	Mm.275332	NM_028835	Atg7	Autophagy-related 7 (yeast)
A05	Mm.10764	NM_007525	Bard1	BRCA1 associated RING domain 1
A06	Mm.244975	NM_009764	Brc1	Breast cancer 1
A07	Mm.226957	NM_145956	Brc3	BRCA1/BRCA2-containing complex, subunit 3
A08	Mm.119717	NM_009771	Btrc	Beta-transducin repeat containing protein
A09	Mm.266871	NM_007619	Cbl	Casitas B-lineage lymphoma
A10	Mm.21981	NM_177613	Cdc34	Cell division cycle 34 homolog (S. cerevisiae)
A11	Mm.87611	NM_012042	Cul1	Cullin 1
A12	Mm.291707	NM_029402	Cul2	Cullin 2
B01	Mm.12665	NM_016716	Cul3	Cullin 3
B02	Mm.212861	NM_146207	Cul4a	Cullin 4A
B03	Mm.327675	NM_028288	Cul4b	Cullin 4B
B04	Mm.218910	NM_027807	Cul5	Cullin 5
B05	Mm.329078	NM_025611	Cul7	Cullin 7
B06	Mm.329076	NM_001081335	Cul9	Cullin 9
B07	Mm.289915	NM_015735	Ddb1	Damage specific DNA binding protein 1
B08	Mm.275138	NM_001110017	Dzip3	DAZ interacting protein 3, zinc finger
B09	Mm.143768	NM_020593	Fbxo3	F-box protein 3
B10	Mm.467749	NM_133765	Fbxo31	F-box protein 31
B11	Mm.234191	NM_134099	Fbxo4	F-box protein 4
B12	Mm.482259	NM_001033669	Fbxw10	F-box and WD-40 domain protein 10
C01	Mm.374815	NM_026791	Fbxw9	F-box and WD-40 domain protein 9
C02	Mm.125298	NM_001081348	Hecw1	HECT, C2 and WW domain containing E3 ubiquitin protein ligase 1
C03	Mm.132150	NM_172655	Hecw2	HECT, C2 and WW domain containing E3 ubiquitin protein ligase 2
C04	Mm.297393	NM_025992	Herc6	Hect domain and RLD 6
C05	Mm.27372	NM_021523	Huwe1	HECT, UBA and WWE domain containing 1
C06	Mm.175989	NM_027314	March5	Membrane-associated ring finger (C3HC4) 5
C07	Mm.22670	NM_010786	Mdm2	Transformed mouse 3T3 cell double minute 2
C08	Mm.21500	NM_144860	Mib1	Mindbomb homolog 1 (Drosophila)
C09	Mm.482182	NM_001160330	Mocs3	Molybdenum cofactor synthesis 3
C10	Mm.103413	NM_026689	Mul1	Mitochondrial ubiquitin ligase activator of NFKB 1
C11	Mm.237670	NM_144931	Nae1	NEDD8 activating enzyme E1 subunit 1
C12	Mm.296566	NM_008683	Nedd8	Neural precursor cell expressed, developmentally down-regulated gene 8
D01	Mm.311110	NM_016694	Park2	Parkinson disease (autosomal recessive, juvenile) 2, parkin
D02	Mm.328135	NM_011931	Rfwd2	Ring finger and WD repeat domain 2
D03	Mm.379272	NM_032543	Rnf123	Ring finger protein 123
D04	Mm.443309	NM_027754	Rnf148	Ring finger protein 148
D05	Mm.258530	NM_019748	Sae1	SUMO1 activating enzyme subunit 1
D06	Mm.42944	NM_011543	Skp1a	S-phase kinase-associated protein 1A
D07	Mm.35584	NM_013787	Skp2	S-phase kinase-associated protein 2 (p45)
D08	Mm.27735	NM_029438	Smurf1	SMAD specific E3 ubiquitin protein ligase 1

Position	UniGene	GenBank	Symbol	Description
D09	Mm.340955	NM_025481	Smurf2	SMAD specific E3 ubiquitin protein ligase 2
D10	Mm.277599	NM_019719	Stub1	STIP1 homology and U-Box containing protein 1
D11	Mm.149870	NM_028769	Syn1	Synovial apoptosis inhibitor 1, synoviolin
D12	Mm.4863	NM_145538	Tmem189	Transmembrane protein 189
E01	Mm.222	NM_011640	Trp53	Transformation related protein 53
E02	Mm.1104	NM_009457	Uba1	Ubiquitin-like modifier activating enzyme 1
E03	Mm.27560	NM_016682	Uba2	Ubiquitin-like modifier activating enzyme 2
E04	Mm.277626	NM_011666	Uba3	Ubiquitin-like modifier activating enzyme 3
E05	Mm.224935	NM_025692	Uba5	Ubiquitin-like modifier activating enzyme 5
E06	Mm.34012	NM_172712	Uba6	Ubiquitin-like modifier activating enzyme 6
E07	Mm.395649	NM_019668	Ube2a	Ubiquitin-conjugating enzyme E2A, RAD6 homolog (S. cerevisiae)
E08	Mm.384918	NM_009458	Ube2b	Ubiquitin-conjugating enzyme E2B, RAD6 homolog (S. cerevisiae)
E09	Mm.89830	NM_026785	Ube2c	Ubiquitin-conjugating enzyme E2C
E10	Mm.270530	NM_145420	Ube2d1	Ubiquitin-conjugating enzyme E2D 1, UBC4/5 homolog (yeast)
E11	Mm.180052	NM_019912	Ube2d2	Ubiquitin-conjugating enzyme E2D 2
E12	Mm.49884	NM_025356	Ube2d3	Ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast)
F01	Mm.4429	NM_009455	Ube2e1	Ubiquitin-conjugating enzyme E2E 1, UBC4/5 homolog (yeast)
F02	Mm.23551	NM_144839	Ube2e2	Ubiquitin-conjugating enzyme E2E 2 (UBC4/5 homolog, yeast)
F03	Mm.1485	NM_009454	Ube2e3	Ubiquitin-conjugating enzyme E2E 3, UBC4/5 homolog (yeast)
F04	Mm.458052	NM_025985	Ube2g1	Ubiquitin-conjugating enzyme E2G 1 (UBC7 homolog, C. elegans)
F05	Mm.458125	NM_019803	Ube2g2	Ubiquitin-conjugating enzyme E2G 2
F06	Mm.332967	NM_009459	Ube2h	Ubiquitin-conjugating enzyme E2H
F07	Mm.240044	NM_011665	Ube2i	Ubiquitin-conjugating enzyme E2I
F08	Mm.259095	NM_019586	Ube2j1	Ubiquitin-conjugating enzyme E2, J1
F09	Mm.371673	NM_001039157	Ube2j2	Ubiquitin-conjugating enzyme E2, J2 homolog (yeast)
F10	Mm.319512	NM_016786	Ube2k	Ubiquitin-conjugating enzyme E2K (UBC1 homolog, yeast)
F11	Mm.3074	NM_009456	Ube2l3	Ubiquitin-conjugating enzyme E2L 3
F12	Mm.196580	NM_145578	Ube2m	Ubiquitin-conjugating enzyme E2M (UBC12 homolog, yeast)
G01	Mm.371667	NM_080560	Ube2n	Ubiquitin-conjugating enzyme E2N
G02	Mm.41438	NM_027315	Ube2q1	Ubiquitin-conjugating enzyme E2Q (putative) 1
G03	Mm.389540	NM_026275	Ube2r2	Ubiquitin-conjugating enzyme E2R 2
G04	Mm.389787	NM_133777	Ube2s	Ubiquitin-conjugating enzyme E2S
G05	Mm.284587	NM_026024	Ube2t	Ubiquitin-conjugating enzyme E2T (putative)
G06	Mm.122430	NM_025773	Ube2w	Ubiquitin-conjugating enzyme E2W (putative)
G07	Mm.38802	NM_172300	Ube2z	Ubiquitin-conjugating enzyme E2Z (putative)
G08	Mm.393991	NM_022022	Ube4b	Ubiquitination factor E4B, UFD2 homolog (S. cerevisiae)
G09	Mm.389330	NM_009461	Ubr1	Ubiquitin protein ligase E3 component n-recognin 1
G10	Mm.28234	NM_146078	Ubr2	Ubiquitin protein ligase E3 component n-recognin 2
G11	Mm.29407	NM_009507	Vhl	Von Hippel-Lindau tumor suppressor
G12	Mm.78312	NM_177327	Wwp1	WW domain containing E3 ubiquitin protein ligase 1
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.343110	NM_008084	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mm.3317	NM_010368	Gusb	Glucuronidase, beta
H05	Mm.2180	NM_008302	Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1
H06	N/A	SA_00106	MGDC	Mouse 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.
RT ² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT ² 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
RT ² 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
RT ² 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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