

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

Mouse DNA Damage Signaling Pathway

Cat. no. 330231 PAMM-029ZA

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 DNA Damage Signaling RT² Profiler PCR Array profiles the expression of 84 genes involved in DNA damage signaling pathways. The genes featured are those associated with the ATR/ATM signaling network and transcriptional targets of DNA damage response. DNA damage can result in cell cycle arrest, apoptosis, and the stabilization and repair of the cellular genome. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to DNA Damage Signaling 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	Abl1	Apex1	Atm	Atr	Atrx	Bax	Blm	Brca1	Brca2	Brip1	Cdc25a	Cdc25c
B	Cdkn1a	Chek1	Chek2	Dclre1a	Ddb2	Ddit3	Ercc1	Ercc2	Exo1	Fanca	Fancc	Fancd2
C	Fancg	Fen1	Gadd45a	Gadd45g	H2afx	Hus1	Lig1	Mbd4	Mcph1	Mdc1	Mgmt	Mif
D	Mlh1	Mlh3	Mpg	Mre11a	Msh2	Msh3	Nbn	Nthl1	Ogg1	Parp1	Parp2	Pcna
E	Pms2	Pole	Polh	Poli	Ppm1d	Ppp1r15a	Prkdc	Ptfg1	Rad1	Rad17	Rad18	Rad21
F	Rad50	Rad51	Rad51c	Rad51ll	Rad52	Rad9	Rev1	Rnf8	Rpa1	Smc1a	Smc3	Sumo1
G	Terf1	Topbp1	Trp53	Trp53bp1	Ung	Wrm	Xpa	Xpc	Xrcc1	Xrcc2	Xrcc3	Xrcc6
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.1318	NM_009594	Abl1	C-abl oncogene 1, non-receptor tyrosine kinase
A02	Mm.203	NM_009687	Apex1	Apurinic/apyrimidinic endonuclease 1
A03	Mm.5088	NM_007499	Atm	Ataxia telangiectasia mutated homolog (human)
A04	Mm.212462	NM_019864	Atr	Ataxia telangiectasia and rad3 related
A05	Mm.10141	NM_009530	Atrx	Alpha thalassemia/mental retardation syndrome X-linked homolog (human)
A06	Mm.19904	NM_007527	Bax	Bcl2-associated X protein
A07	Mm.12932	NM_007550	Blm	Bloom syndrome, RecQ helicase-like
A08	Mm.244975	NM_009764	Brca1	Breast cancer 1
A09	Mm.236256	NM_009765	Brca2	Breast cancer 2
A10	Mm.186143	NM_178309	Brip1	BRCA1 interacting protein C-terminal helicase 1
A11	Mm.307103	NM_007658	Cdc25a	Cell division cycle 25 homolog A (S. pombe)
A12	Mm.286602	NM_009860	Cdc25c	Cell division cycle 25 homolog C (S. pombe)
B01	Mm.195663	NM_007669	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)
B02	Mm.16753	NM_007691	Chek1	Checkpoint kinase 1 homolog (S. pombe)
B03	Mm.279308	NM_016681	Chek2	CHK2 checkpoint homolog (S. pombe)
B04	Mm.2805	NM_018831	Dclre1a	DNA cross-link repair 1A, P5O2 homolog (S. cerevisiae)
B05	Mm.389334	NM_028119	Ddb2	Damage specific DNA binding protein 2
B06	Mm.110220	NM_007837	Ddit3	DNA-damage inducible transcript 3
B07	Mm.280913	NM_007948	Ercc1	Excision repair cross-complementing rodent repair deficiency, complementation group 1
B08	Mm.36524	NM_007949	Ercc2	Excision repair cross-complementing rodent repair deficiency, complementation group 2
B09	Mm.283046	NM_012012	Exo1	Exonuclease 1
B10	Mm.6536	NM_016925	Fanca	Fanconi anemia, complementation group A
B11	Mm.126106	NM_007985	Fancc	Fanconi anemia, complementation group C
B12	Mm.160061	NM_001033244	Fancd2	Fanconi anemia, complementation group D2
C01	Mm.23122	NM_053081	Fancg	Fanconi anemia, complementation group G
C02	Mm.2952	NM_007999	Fen1	Flap structure specific endonuclease 1
C03	Mm.72235	NM_007836	Gadd45a	Growth arrest and DNA-damage-inducible 45 alpha
C04	Mm.281298	NM_011817	Gadd45g	Growth arrest and DNA-damage-inducible 45 gamma
C05	Mm.245931	NM_010436	H2afx	H2A histone family, member X
C06	Mm.42201	NM_008316	Hus1	Hus1 homolog (S. pombe)
C07	Mm.288179	NM_010715	Lig1	Ligase I, DNA, ATP-dependent
C08	Mm.259308	NM_010774	Mbd4	Methyl-CpG binding domain protein 4
C09	Mm.235296	NM_173189	Mcph1	Microcephaly, primary autosomal recessive 1
C10	Mm.218511	NM_001010833	Mdc1	Mediator of DNA damage checkpoint 1
C11	Mm.440219	NM_008598	Mgmt	O-6-methylguanine-DNA methyltransferase
C12	Mm.2326	NM_010798	Mif	Macrophage migration inhibitory factor
D01	Mm.196006	NM_026810	Mlh1	MutL homolog 1 (E. coli)
D02	Mm.311981	NM_175337	Mlh3	MutL homolog 3 (E. coli)
D03	Mm.263161	NM_010822	Mpg	N-methylpurine-DNA glycosylase
D04	Mm.149071	NM_018736	Mre11a	Meiotic recombination 11 homolog A (S. cerevisiae)
D05	Mm.4619	NM_008628	Msh2	MutS homolog 2 (E. coli)
D06	Mm.343101	NM_010829	Msh3	MutS homolog 3 (E. coli)
D07	Mm.20866	NM_013752	Nbn	Nibrin

Position	UniGene	GenBank	Symbol	Description
D08	Mm.148315	NM_008743	Nthl1	Nth (endonuclease III)-like 1 (E.coli)
D09	Mm.43612	NM_010957	Ogg1	8-oxoguanine DNA-glycosylase 1
D10	Mm.277779	NM_007415	Parp1	Poly (ADP-ribose) polymerase family, member 1
D11	Mm.281482	NM_009632	Parp2	Poly (ADP-ribose) polymerase family, member 2
D12	Mm.7141	NM_011045	Pcna	Proliferating cell nuclear antigen
E01	Mm.2950	NM_008886	Pms2	Postmeiotic segregation increased 2 (S. cerevisiae)
E02	Mm.35061	NM_011132	Pole	Polymerase (DNA directed), epsilon
E03	Mm.311585	NM_030715	Polh	Polymerase (DNA directed), eta (RAD 30 related)
E04	Mm.244352	NM_011972	Poli	Polymerase (DNA directed), iota
E05	Mm.45609	NM_016910	Ppm1d	Protein phosphatase 1D magnesium-dependent, delta isoform
E06	Mm.4048	NM_008654	Ppp1r15a	Protein phosphatase 1, regulatory (inhibitor) subunit 15A
E07	Mm.71	NM_011159	Prkdc	Protein kinase, DNA activated, catalytic polypeptide
E08	Mm.6856	NM_013917	Pitfg1	Pituitary tumor-transforming gene 1
E09	Mm.38376	NM_011232	Rad1	RAD1 homolog (S. pombe)
E10	Mm.248489	NM_011233	Rad17	RAD17 homolog (S. pombe)
E11	Mm.103812	NM_021385	Rad18	RAD18 homolog (S. cerevisiae)
E12	Mm.182628	NM_009009	Rad21	RAD21 homolog (S. pombe)
F01	Mm.4888	NM_009012	Rad50	RAD50 homolog (S. cerevisiae)
F02	Mm.471596	NM_011234	Rad51	RAD51 homolog (S. cerevisiae)
F03	Mm.37376	NM_053269	Rad51c	Rad51 homolog c (S. cerevisiae)
F04	Mm.341756	NM_009014	Rad51l1	RAD51-like 1 (S. cerevisiae)
F05	Mm.149	NM_011236	Rad52	RAD52 homolog (S. cerevisiae)
F06	Mm.277629	NM_011237	Rad9	RAD9 homolog (S. pombe)
F07	Mm.259294	NM_019570	Rev1	REV1 homolog (S. cerevisiae)
F08	Mm.305994	NM_021419	Rnf8	Ring finger protein 8
F09	Mm.180734	NM_026653	Rpa1	Replication protein A1
F10	Mm.482095	NM_019710	Smc1a	Structural maintenance of chromosomes 1A
F11	Mm.14910	NM_007790	Smc3	Structural maintenance of chromosomes 3
F12	Mm.362118	NM_009460	Sumo1	SMT3 suppressor of mif two 3 homolog 1 (yeast)
G01	Mm.4306	NM_009352	Terf1	Telomeric repeat binding factor 1
G02	Mm.259893	NM_176979	Topbp1	Topoisomerase (DNA) II binding protein 1
G03	Mm.222	NM_011640	Trp53	Transformation related protein 53
G04	Mm.215389	NM_013735	Trp53bp1	Transformation related protein 53 binding protein 1
G05	Mm.1393	NM_011677	Ung	Uracil DNA glycosylase
G06	Mm.228805	NM_011721	Wrn	Werner syndrome homolog (human)
G07	Mm.247036	NM_011728	Xpa	Xeroderma pigmentosum, complementation group A
G08	Mm.2806	NM_009531	Xpc	Xeroderma pigmentosum, complementation group C
G09	Mm.4347	NM_009532	Xrcc1	X-ray repair complementing defective repair in Chinese hamster cells 1
G10	Mm.143767	NM_020570	Xrcc2	X-ray repair complementing defective repair in Chinese hamster cells 2
G11	Mm.19082	NM_028875	Xrcc3	X-ray repair complementing defective repair in Chinese hamster cells 3
G12	Mm.288809	NM_010247	Xrcc6	X-ray repair complementing defective repair in Chinese hamster cells 6
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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