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

Mouse DNA Repair

Cat. no. 330231 PAMM-042ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² 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
RT² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT² Profiler PCR Array, Format H	Fluidigm® BioMark™

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Description

The Mouse DNA Repair RT² Profiler PCR Array profiles the expression of 84 key genes encoding the enzymes that repair damaged DNA. This array represents genes involved in the base-excision, nucleotide excision, mismatch, double-strand break, and other repair processes. Daily exposure to environmental agents (such as reactive oxygen species, methylating agents, UV light and other ionizing radiation) and even normal physiological processes (like replication and recombination) all damage DNA. Cells must repair DNA damage to prevent mutations from propagating and accumulating and to maintain genome integrity and stability. Inherited and acquired defects in DNA repair lead to accelerated aging and increased predisposition to cancer. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in DNA Repair 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	Apex1	Apex2	Atm	Atr	Atxn3	Brca1	Brca2	Brip1	Ccnh	Ccno	Cdk7	Ddb1
B	Ddb2	Dmc1	Ercc1	Ercc2	Ercc3	Ercc4	Ercc5	Ercc6	Ercc8	Exo1	Fen1	Lig1
C	Lig3	Lig4	Mgmt	Mlh1	Mlh3	Mms19	Mpg	Mre11a	Msh2	Msh3	Msh4	Msh5
D	Msh6	Mutyh	Neil1	Neil2	Neil3	Nthl1	Ogg1	Parp1	Parp2	Parp3	Pms1	Pms2
E	Pnkp	Polb	Pold3	Poll	Prkdc	Rad18	Rad21	Rad23a	Rad23b	Rad50	Rad51	Rad51c
F	Rad51l1	Rad51l3	Rad52	Rad54l	Rfc1	Rpa1	Rpa3	Slk	Smug1	Tdg	Top3a	Top3b
G	Trex1	Ung	Xab2	Xpa	Xpc	Xrcc1	Xrcc2	Xrcc3	Xrcc4	Xrcc5	Xrcc6	Xrcc6bp1
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.203	NM_009687	Apex1	Apurinic/apyrimidinic endonuclease 1
A02	Mm.440275	NM_029943	Apex2	Apurinic/apyrimidinic endonuclease 2
A03	Mm.5088	NM_007499	Atm	Ataxia telangiectasia mutated homolog (human)
A04	Mm.212462	NM_019864	Atr	Ataxia telangiectasia and rad3 related
A05	Mm.485508	NM_029705	Atxn3	Ataxin 3
A06	Mm.244975	NM_009764	Brca1	Breast cancer 1
A07	Mm.236256	NM_009765	Brca2	Breast cancer 2
A08	Mm.186143	NM_178309	Brip1	BRCA1 interacting protein C-terminal helicase 1
A09	Mm.18474	NM_023243	Ccnh	Cyclin H
A10	Mm.25457	NM_001081062	Ccno	Cyclin O
A11	Mm.259718	NM_009874	Cdk7	Cyclin-dependent kinase 7
A12	Mm.289915	NM_015735	Ddb1	Damage specific DNA binding protein 1
B01	Mm.389334	NM_028119	Ddb2	Damage specific DNA binding protein 2
B02	Mm.2524	NM_010059	Dmc1	DMC1 dosage suppressor of mck1 homolog, meiosis-specific homologous recombination (yeast)
B03	Mm.280913	NM_007948	Ercc1	Excision repair cross-complementing rodent repair deficiency, complementation group 1
B04	Mm.36524	NM_007949	Ercc2	Excision repair cross-complementing rodent repair deficiency, complementation group 2
B05	Mm.282335	NM_133658	Ercc3	Excision repair cross-complementing rodent repair deficiency, complementation group 3
B06	Mm.287837	NM_015769	Ercc4	Excision repair cross-complementing rodent repair deficiency, complementation group 4
B07	Mm.2213	NM_011729	Ercc5	Excision repair cross-complementing rodent repair deficiency, complementation group 5
B08	Mm.318310	NM_001081221	Ercc6	Excision repair cross-complementing rodent repair deficiency, complementation group 6
B09	Mm.212208	NM_028042	Ercc8	Excision repaiross-complementing rodent repair deficiency, complementation group 8
B10	Mm.283046	NM_012012	Exo1	Exonuclease 1
B11	Mm.2952	NM_007999	Fen1	Flap structure specific endonuclease 1
B12	Mm.288179	NM_010715	Lig1	Ligase I, DNA, ATP-dependent
C01	Mm.277136	NM_010716	Lig3	Ligase III, DNA, ATP-dependent
C02	Mm.80584	NM_176953	Lig4	Ligase IV, DNA, ATP-dependent
C03	Mm.440219	NM_008598	Mgmt	O-6-methylguanine-DNA methyltransferase
C04	Mm.196006	NM_026810	Mlh1	MutL homolog 1 (E. coli)
C05	Mm.311981	NM_175337	Mlh3	MutL homolog 3 (E coli)
C06	Mm.218940	NM_028152	Mms19	MMS19 (MET18 S. cerevisiae)
C07	Mm.263161	NM_010822	Mpg	N-methylpurine-DNA glycosylase
C08	Mm.149071	NM_018736	Mre11a	Meiotic recombination 11 homolog A (S. cerevisiae)
C09	Mm.4619	NM_008628	Msh2	MutS homolog 2 (E. coli)
C10	Mm.343101	NM_010829	Msh3	MutS homolog 3 (E. coli)
C11	Mm.272226	NM_031870	Msh4	MutS homolog 4 (E. coli)
C12	Mm.24192	NM_013600	Msh5	MutS homolog 5 (E. coli)
D01	Mm.18210	NM_010830	Msh6	MutS homolog 6 (E. coli)

Position	UniGene	GenBank	Symbol	Description
D02	Mm.180333	NM_133250	Mutyh	MutY homolog (E. coli)
D03	Mm.35749	NM_028347	Neil1	Nei endonuclease VIII-like 1 (E. coli)
D04	Mm.239490	NM_201610	Neil2	Nei like 2 (E. coli)
D05	Mm.281749	NM_146208	Neil3	Nei like 3 (E. coli)
D06	Mm.148315	NM_008743	Nthl1	Nth (endonuclease III)-like 1 (E.coli)
D07	Mm.43612	NM_010957	Ogg1	8-oxoguanine DNA-glycosylase 1
D08	Mm.277779	NM_007415	Parp1	Poly (ADP-ribose) polymerase family, member 1
D09	Mm.281482	NM_009632	Parp2	Poly (ADP-ribose) polymerase family, member 2
D10	Mm.273659	NM_145619	Parp3	Poly (ADP-ribose) polymerase family, member 3
D11	Mm.60499	NM_153556	Pms1	Postmeiotic segregation increased 1 (S. cerevisiae)
D12	Mm.2950	NM_008886	Pms2	Postmeiotic segregation increased 2 (S. cerevisiae)
E01	Mm.238254	NM_021549	Pnkp	Polynucleotide kinase 3'- phosphatase
E02	Mm.123211	NM_011130	Polb	Polymerase (DNA directed), beta
E03	Mm.37562	NM_133692	Pold3	Polymerase (DNA-directed), delta 3, accessory subunit
E04	Mm.46509	NM_020032	Poll	Polymerase (DNA directed), lambda
E05	Mm.71	NM_011159	Prkdc	Protein kinase, DNA activated, catalytic polypeptide
E06	Mm.103812	NM_021385	Rad18	RAD18 homolog (S. cerevisiae)
E07	Mm.182628	NM_009009	Rad21	RAD21 homolog (S. pombe)
E08	Mm.477498	NM_009010	Rad23a	RAD23a homolog (S. cerevisiae)
E09	Mm.196846	NM_009011	Rad23b	RAD23b homolog (S. cerevisiae)
E10	Mm.4888	NM_009012	Rad50	RAD50 homolog (S. cerevisiae)
E11	Mm.471596	NM_011234	Rad51	RAD51 homolog (S. cerevisiae)
E12	Mm.37376	NM_053269	Rad51c	Rad51 homolog c (S. cerevisiae)
F01	Mm.341756	NM_009014	Rad51l1	RAD51-like 1 (S. cerevisiae)
F02	Mm.9286	NM_011235	Rad51l3	RAD51-like 3 (S. cerevisiae)
F03	Mm.149	NM_011236	Rad52	RAD52 homolog (S. cerevisiae)
F04	Mm.3655	NM_009015	Rad54l	RAD54 like (S. cerevisiae)
F05	Mm.148877	NM_011258	Rfc1	Replication factor C (activator 1) 1
F06	Mm.180734	NM_026653	Rpa1	Replication protein A1
F07	Mm.29073	NM_026632	Rpa3	Replication protein A3
F08	Mm.281011	NM_009289	Slk	STE20-like kinase (yeast)
F09	Mm.254820	NM_027885	Smug1	Single-strand selective monofunctional uracil DNA glycosylase
F10	Mm.347607	NM_011561	Tdg	Thymine DNA glycosylase
F11	Mm.477819	NM_009410	Top3a	Topoisomerase (DNA) III alpha
F12	Mm.326089	NM_011624	Top3b	Topoisomerase (DNA) III beta
G01	Mm.439964	NM_011637	Trex1	Three prime repair exonuclease 1
G02	Mm.1393	NM_011677	Ung	Uracil DNA glycosylase
G03	Mm.23739	NM_026156	Xab2	XPA binding protein 2
G04	Mm.247036	NM_011728	Xpa	Xeroderma pigmentosum, complementation group A
G05	Mm.2806	NM_009531	Xpc	Xeroderma pigmentosum, complementation group C
G06	Mm.4347	NM_009532	Xrcc1	X-ray repair complementing defective repair in Chinese hamster cells 1
G07	Mm.143767	NM_020570	Xrcc2	X-ray repair complementing defective repair in Chinese hamster cells 2
G08	Mm.19082	NM_028875	Xrcc3	X-ray repair complementing defective repair in Chinese hamster cells 3
G09	Mm.37531	NM_028012	Xrcc4	X-ray repair complementing defective repair in Chinese hamster cells 4
G10	Mm.246952	NM_009533	Xrcc5	X-ray repair complementing defective repair in Chinese hamster cells 5
G11	Mm.288809	NM_010247	Xrcc6	X-ray repair complementing defective repair in Chinese hamster cells 6
G12	Mm.276769	NM_026858	Xrcc6bp1	XRCC6 binding protein 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.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² 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
RT² 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
RT² 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.

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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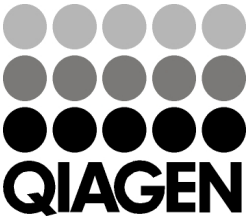

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