

# RT<sup>2</sup> Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

## Mouse Polycomb & Trithorax Complexes

Cat. no. 330231 PAMM-506ZA

For pathway expression analysis

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



Sample & Assay Technologies

## Description

The Mouse Polycomb & Trithorax Complexes RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key polycomb and trithorax complex components including chromatin modification enzymes and remodeling factors. The polycomb and trithorax complexes maintain epigenetic control of cell type specific gene expression patterns important for cellular identity via histone modification. The polycomb complex causes transcriptional repression, while the trithorax complex reverses that effect to maintain an active state of transcription. Polycomb and trithorax complex activity controls the proper differentiation of induced and embryonic pluripotent stem cells. Dysregulation of their activities promotes oncogenesis by causing inappropriate expression of cell identity, differentiation and proliferation genes. Research into the expression and regulation of these complexes can help determine the underlying mechanisms of histone modification based regulation of gene expression during differentiation and oncogenesis. This array includes core components of the polycomb and trithorax complexes as well as key interactors and genes necessary for complex assembly. Using real-time PCR, your research study can easily and reliably analyze the expression of a focused panel of genes involved in polycomb and trithorax complex activity 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 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. RT<sup>2</sup> 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 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.

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## Array layout (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT<sup>2</sup> Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
<b>A</b>	Aebp2	Arid1a	Arid1b	Ash1l	Ash2l	Asxl1	Asxl2	Asxl3	Bap1	Bmi1	Bptf	Cbx1
<b>B</b>	Cbx2	Cbx3	Cbx4	Cbx5	Cbx7	Cbx8	Ctbp1	Ctbp2	Cxxc1	Dnmt1	Dnmt3a	Dnmt3b
<b>C</b>	Dnmt3l	E2f6	Eed	Epc1	Ezh1	Ezh2	Hllf	Htt	Ino80	Ino80b	Ino80c	Ino80d
<b>D</b>	Jarid2	Kdm2b	Kdm5d	L3mbtl2	Larp7	Mbd1	Mll1	Mll2	Mll3	Mov10	Mlf2	Pbrm1
<b>E</b>	Pcgf1	Pcgf2	Pcgf5	Phc1	Phc2	Phc3	Phf1	Phf19	Ppp1cc	Ppp1r8	Rbbp4	Rbbp5
<b>F</b>	Rbbp7	Rbp2	Ring1	Rnase1	Rnf2	Scmh1	Scml2	Sirt1	Smarca1	Smarca2	Smarca4	Smarca5
<b>G</b>	Smarca1	Smarca1	Smarca2	Snai1	Suz12	Trim27	Usp11	Usp7	Wbp7	Wdr5	Yaf2	Zbtb16
<b>H</b>	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	RTC	RTC	RTC	PPC	PPC	PPC

## Gene table: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Mm.479349	NM_009637	Aebp2	AE binding protein 2
A02	Mm.22478	NM_001080819	Arid1a	AT rich interactive domain 1A (SWI-like)
A03	Mm.133401	NM_001085355	Arid1b	AT rich interactive domain 1B (SWI-like)
A04	Mm.130752	NM_138679	Ash1l	Ash1 (absent, small, or homeotic)-like (Drosophila)
A05	Mm.27706	NM_011791	Ash2l	Ash2 (absent, small, or homeotic)-like (Drosophila)
A06	Mm.330677	NM_001039939	Asxl1	Additional sex combs like 1 (Drosophila)
A07	Mm.120475	NM_172421	Asxl2	Additional sex combs like 2 (Drosophila)
A08	Mm.392310	NM_001167777	Asxl3	Additional sex combs like 3 (Drosophila)
A09	Mm.3779	NM_027088	Bap1	Brc1 associated protein 1
A10	Mm.289584	NM_007552	Bmi1	Bmi1 polycomb ring finger oncogene
A11	Mm.343986	NM_176850	Bptf	Bromodomain PHD finger transcription factor
A12	Mm.29055	NM_007622	Cbx1	Chromobox homolog 1 (Drosophila HP1 beta)
B01	Mm.14547	NM_007623	Cbx2	Chromobox homolog 2 (Drosophila Pc class)
B02	Mm.280968	NM_007624	Cbx3	Chromobox homolog 3 (Drosophila HP1 gamma)
B03	Mm.268070	NM_007625	Cbx4	Chromobox homolog 4 (Drosophila Pc class)
B04	Mm.262059	NM_007626	Cbx5	Chromobox homolog 5 (Drosophila HP1 alpha)
B05	Mm.323442	NM_144811	Cbx7	Chromobox homolog 7
B06	Mm.99953	NM_013926	Cbx8	Chromobox homolog 8 (Drosophila Pc class)
B07	Mm.7286	NM_013502	Ctbp1	C-terminal binding protein 1
B08	Mm.246240	NM_009980	Ctbp2	C-terminal binding protein 2
B09	Mm.17537	NM_028868	Cxxc1	CXXC finger 1 (PHD domain)
B10	Mm.128580	NM_010066	Dnmt1	DNA methyltransferase (cytosine-5) 1
B11	Mm.5001	NM_007872	Dnmt3a	DNA methyltransferase 3A
B12	Mm.89772	NM_010068	Dnmt3b	DNA methyltransferase 3B
C01	Mm.13433	NM_019448	Dnmt3l	DNA (cytosine-5)-methyltransferase 3-like
C02	Mm.23296	NM_033270	E2f6	E2F transcription factor 6
C03	Mm.380914	NM_021876	Eed	Embryonic ectoderm development
C04	Mm.312133	NM_027497	Epc1	Enhancer of polycomb homolog 1 (Drosophila)
C05	Mm.5027	NM_007970	Ezh1	Enhancer of zeste homolog 1 (Drosophila)
C06	Mm.246688	NM_007971	Ezh2	Enhancer of zeste homolog 2 (Drosophila)
C07	Mm.209650	NM_144959	Hllf	Helicase-like transcription factor
C08	Mm.209071	NM_010414	Htt	Huntingtin
C09	Mm.330496	NM_026574	Ino80	INO80 homolog (S. cerevisiae)
C10	Mm.27814	NM_023547	Ino80b	INO80 complex subunit B
C11	Mm.258973	NM_172625	Ino80c	INO80 complex subunit C
C12	Mm.74718	NM_001114609	Ino80d	INO80 complex subunit D
D01	Mm.25059	NM_021878	Jarid2	Jumonji, AT rich interactive domain 2
D02	Mm.86406	NM_013910	Kdm2b	Lysine (K)-specific demethylase 2B
D03	Mm.262676	NM_011419	Kdm5d	Lysine (K)-specific demethylase 5D
D04	Mm.280768	NM_145993	L3mbtl2	L(3)mbt-like 2 (Drosophila)
D05	Mm.291032	NM_138593	Larp7	La ribonucleoprotein domain family, member 7
D06	Mm.210334	NM_134012	Mbd1	Mbt domain containing 1
D07	Mm.2389	NM_001081049	Mll1	Myeloid/lymphoid or mixed-lineage leukemia 1
D08	Mm.264889	NM_001033276	Mll2	Myeloid/lymphoid or mixed-lineage leukemia 2
D09	Mm.332268	NM_001081383	Mll3	Myeloid/lymphoid or mixed-lineage leukemia 3

Position	UniGene	GenBank	Symbol	Description
D10	Mm.1597	NM_008619	Mov10	Moloney leukemia virus 10
D11	Mm.257149	NM_013827	Mhf2	Metal response element binding transcription factor 2
D12	Mm.27913	NM_001081251	Pbrm1	Polybromo 1
E01	Mm.12261	NM_197992	Pcgf1	Polycomb group ring finger 1
E02	Mm.2418	NM_009545	Pcgf2	Polycomb group ring finger 2
E03	Mm.259180	NM_029508	Pcgf5	Polycomb group ring finger 5
E04	Mm.6822	NM_007905	Phc1	Polyhomeotic-like 1 (Drosophila)
E05	Mm.259103	NM_018774	Phc2	Polyhomeotic-like 2 (Drosophila)
E06	Mm.233173	NM_153421	Phc3	Polyhomeotic-like 3 (Drosophila)
E07	Mm.480590	NM_009343	Phf1	PHD finger protein 1
E08	Mm.65691	NM_028716	Phf19	PHD finger protein 19
E09	Mm.280784	NM_013636	Ppp1cc	Protein phosphatase 1, catalytic subunit, gamma isoform
E10	Mm.105230	NM_146154	Ppp1r8	Protein phosphatase 1, regulatory (inhibitor) subunit 8
E11	Mm.12145	NM_009030	Rbbp4	Retinoblastoma binding protein 4
E12	Mm.132868	NM_172517	Rbbp5	Retinoblastoma binding protein 5
F01	Mm.270186	NM_009031	Rbbp7	Retinoblastoma binding protein 7
F02	Mm.12825	NM_009034	Rbp2	Retinol binding protein 2, cellular
F03	Mm.20343	NM_009066	Ring1	Ring finger protein 1
F04	Mm.259254	NM_011882	Rnasel	Ribonuclease L (2', 5'-oligoadenylate synthetase-dependent)
F05	Mm.482250	NM_011277	Rnf2	Ring finger protein 2
F06	Mm.427014	NM_013883	Scmh1	Sex comb on midleg homolog 1
F07	Mm.159173	NM_133194	Scml2	Sex comb on midleg-like 2 (Drosophila)
F08	Mm.351459	NM_019812	Sirt1	Sirtuin 1 (silent mating type information regulation 2, homolog) 1 (S. cerevisiae)
F09	Mm.229151	NM_053123	Smarca1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 1
F10	Mm.313303	NM_011416	Smarca2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2
F11	Mm.286593	NM_011417	Smarca4	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4
F12	Mm.246803	NM_053124	Smarca5	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 5
G01	Mm.279751	NM_011418	Smarcb1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily b, member 1
G02	Mm.85410	NM_009211	Smarcc1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily c, member 1
G03	Mm.417338	NM_198160	Smarcc2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily c, member 2
G04	Mm.2093	NM_011427	Snai1	Snail homolog 1 (Drosophila)
G05	Mm.283410	NM_199196	Suz12	Suppressor of zeste 12 homolog (Drosophila)
G06	Mm.314056	NM_009054	Trim27	Tripartite motif-containing 27
G07	Mm.34489	NM_145628	Usp11	Ubiquitin specific peptidase 11
G08	Mm.295330	NM_001003918	Usp7	Ubiquitin specific peptidase 7
G09	Mm.168688	NM_029274	Wbp7	WW domain binding protein 7
G10	Mm.28265	NM_080848	Wdr5	WD repeat domain 5
G11	Mm.4714	NM_024189	Yaf2	YY1 associated factor 2
G12	Mm.457803	NM_001033324	Zbtb16	Zinc finger and BTB domain containing 16
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, 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 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 <sup>2</sup> 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 <sup>2</sup> 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.

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.

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