

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

Rat Polycomb & Trithorax Complexes

Cat. no. 330231 PARN-506ZA

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 Rat Polycomb & Trithorax Complexes RT² 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 *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	Aebp2	Arid1a	Arid1b	Ash1l	Ash2l	Asxl2	Bap1	Bcor	Bmi1	Cbx2	Cbx5	Cbx6
B	Cbx7	Cbx8	Csnk2a1	Csnk2a2	Csnk2b	Ctbp1	Ctbp2	Ctcf	Cxxc1	Dnaja2	Dnmt1	Dnmt3a
C	Dnmt3b	Dnmt3l	E2f6	Eed	Epc1	Epc2	Ezh1	Ezh2	Hltf	Hmgb2	Htt	Igf2bp1
D	Ilf2	Ino80c	Ino80e	L3mbtl2	Mll1	Mll5	Mov10	Mtf2	Pcgf1	Pcgf2	Pcgf3	Pcgf6
E	Phc1	Phc2	Phc3	Phf1	Phf19	Ppp1cc	Ppp1r8	Plen	Rbbp4	Rbbp5	Rbbp7	Rbp2
F	Ring1	Rnase1	Rnf2	Rybp	Scmh1	Sirt1	Smarca2	Smarca4	Smarca5	Smarcd1	Smarcal1	Smarcb1
G	Smarcd1	Smarcd2	Smarcd3	Smarc1	Snai1	Trim27	Usp11	Usp7	Wdr5	Yaf2	Yy1	Zbtb16
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.219578	NM_001106626	Aebp2	AE binding protein 2
A02	Rn.61077	NM_001106635	Arid1a	AT rich interactive domain 1A (Swi1-like)
A03	Rn.22598	NM_172157	Arid1b	AT rich interactive domain 1B (Swi1 like)
A04	Rn.206058	NM_001107689	Ash1l	Ash1 (absent, small, or homeotic)-like (Drosophila)
A05	Rn.219095	NM_001106089	Ash2l	Ash2 (absent, small, or homeotic)-like (Drosophila)
A06	Rn.153991	NM_001108011	Asxl2	Additional sex combs like 2 (Drosophila)
A07	Rn.3382	NM_001107292	Bap1	BRCA1 associated protein-1 (ubiquitin carboxy-terminal hydrolase)
A08	Rn.101287	NM_001191586	Bcor	BCL6 co-repressor
A09	Rn.220522	NM_001107368	Bmi1	Bmi1 polycomb ring finger oncogene
A10	Rn.13839	NM_001107071	Cbx2	Chromobox homolog 2 (Pc class homolog, Drosophila)
A11	Rn.101856	NM_001106797	Cbx5	Chromobox homolog 5 (HP1 alpha homolog, Drosophila)
A12	Rn.161995	NM_001012119	Cbx6	Chromobox homolog 6
B01	Rn.12512	NM_199117	Cbx7	Chromobox homolog 7
B02	Rn.43722	NM_001034078	Cbx8	Chromobox homolog 8 (Pc class homolog, Drosophila)
B03	Rn.4231	NM_053824	Csnk2a1	Casein kinase 2, alpha 1 polypeptide
B04	Rn.24013	NM_001107409	Csnk2a2	Casein kinase 2, alpha prime polypeptide
B05	Rn.137692	NM_031021	Csnk2b	Casein kinase 2, beta polypeptide
B06	Rn.3946	NM_019201	Ctbp1	C-terminal binding protein 1
B07	Rn.138124	NM_053335	Ctbp2	C-terminal binding protein 2
B08	Rn.18612	NM_031824	Ctcf	CCCTC-binding factor (zinc finger protein)
B09	Rn.86349	NM_001079698	Cxxc1	CXXC finger 1 (PHD domain)
B10	Rn.11908	NM_053776	Dnaja2	DnaJ (Hsp40) homolog, subfamily C, member 2
B11	Rn.6955	NM_053354	Dnmt1	DNA (cytosine-5-)-methyltransferase 1
B12	Rn.92659	NM_001003958	Dnmt3a	DNA (cytosine-5-)-methyltransferase 3 alpha
C01	Rn.117353	NM_001003959	Dnmt3b	DNA (cytosine-5-)-methyltransferase 3 beta
C02	Rn.129905	NM_001003964	Dnmt3l	DNA (cytosine-5-)-methyltransferase 3-like
C03	Rn.212639	XM_233986	E2f6	E2F transcription factor 6
C04	Rn.3939	NM_001106278	Eed	Embryonic ectoderm development
C05	Rn.219240	NM_001100972	Epc1	Enhancer of polycomb homolog 1 (Drosophila)
C06	Rn.23462	NM_001108581	Epc2	Enhancer of polycomb homolog 2 (Drosophila)
C07	Rn.154549	NM_001107051	Ezh1	Enhancer of zeste homolog 1 (Drosophila)
C08	Rn.9027	NM_001134979	Ezh2	Enhancer of zeste homolog 2 (Drosophila)
C09	Rn.161819	NM_001106478	Hltf	Helicase-like transcription factor
C10	Rn.2874	NM_017187	Hmgb2	High mobility group box 2
C11	Rn.111193	NM_024357	Htt	Huntingtin
C12	Rn.77572	NM_175594	Igf2bp1	Insulin-like growth factor 2 mRNA binding protein 1
D01	Rn.137428	NM_001047886	Ilf2	Interleukin enhancer binding factor 2
D02	Rn.18319	NM_001017446	Ino80c	INO80 complex subunit C
D03	Rn.3179	NM_001013900	Ino80e	INO80 complex subunit E
D04	Rn.137566	NM_001033695	L3mbtl2	L(3)mbt-like 2 (Drosophila)
D05	Rn.62341	NM_001108139	Mll1	Myeloid/lymphoid or mixed-lineage leukemia 1
D06	Rn.106040	XM_231287	Mll5	Myeloid/lymphoid or mixed-lineage leukemia 5 (trithorax homolog, Drosophila)
D07	Rn.3508	NM_001107711	Mov10	Moloney leukemia virus 10
D08	Rn.20300	NM_001100898	Mtf2	Metal response element binding transcription factor 2
D09	Rn.203514	NM_001007000	Pcgf1	Polycomb group ring finger 1

Position	UniGene	GenBank	Symbol	Description
D10	Rn.11826	NM_001105836	Pcgf2	Polycomb group ring finger 2
D11	Rn.8211	NM_001107245	Pcgf3	Polycomb group ring finger 3
D12	Rn.16897	NM_001013154	Pcgf6	Polycomb group ring finger 6
E01	Rn.139784	NM_001107886	Phc1	Polyhomeotic homolog 1 (Drosophila)
E02	Rn.2428	NM_001013169	Phc2	Polyhomeotic homolog 2 (Drosophila)
E03	Rn.219604	NM_001107662	Phc3	Polyhomeotic homolog 3 (Drosophila)
E04	Rn.24149	NM_212538	Phf1	PHD finger protein 1
E05	Rn.48468	NM_001106570	Phf19	PHD finger protein 19
E06	Rn.1495	NM_022498	Ppp1cc	Protein phosphatase 1, catalytic subunit, gamma isoform
E07	Rn.16580	NM_001107911	Ppp1r8	Protein phosphatase 1, regulatory (inhibitor) subunit 8
E08	Rn.22158	NM_031606	Pten	Phosphatase and tensin homolog
E09	Rn.7745	NM_001107912	Rbbp4	Retinoblastoma binding protein 4
E10	Rn.11774	NM_001107174	Rbbp5	Retinoblastoma binding protein 5
E11	Rn.3600	NM_031816	Rbbp7	Retinoblastoma binding protein 7
E12	Rn.9828	NM_012640	Rbp2	Retinol binding protein 2, cellular
F01	Rn.116589	NM_212549	Ring1	Ring finger protein 1
F02	Rn.107928	NM_182673	Rnasel	Ribonuclease L (2',5'-oligoadenylate synthetase-dependent)
F03	Rn.19719	NM_001025667	Rnf2	Ring finger protein 2
F04	Rn.33148	NM_001107879	Rybp	RING1 and YY1 binding protein
F05	Rn.7761	NM_001109669	Scmh1	Sex comb on midleg homolog 1 (Drosophila)
F06	Rn.219976	NM_001107627	Sirt1	Sirtuin (silent mating type information regulation 2 homolog) 1 (S. cerevisiae)
F07	Rn.94939	NM_001004446	Smarca2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2
F08	Rn.23417	NM_134368	Smarca4	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4
F09	Rn.221918	NM_001107419	Smarca5	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 5
F10	Rn.7758	NM_001107864	Smarcad1	SWI/SNF-related, matrix-associated actin-dependent regulator of chromatin, subfamily a, containing DEAD/H box 1
F11	Rn.34679	NM_001108222	Smarcal1	Swi/SNF related matrix associated, actin dependent regulator of chromatin, subfamily a-like 1
F12	Rn.73954	NM_001025728	Smarcb1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily b, member 1
G01	Rn.21196	NM_001108752	Smarcd1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 1
G02	Rn.3053	NM_031983	Smarcd2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 2
G03	Rn.20043	NM_001011966	Smarcd3	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3
G04	Rn.8513	NM_001024993	Smarce1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily e, member 1
G05	Rn.8008	NM_053805	Snai1	Snail homolog 1 (Drosophila)
G06	Rn.8393	NM_001106115	Trim27	Tripartite motif-containing 27
G07	Rn.2492	NM_001008861	Usp11	Ubiquitin specific peptidase 11
G08	Rn.72721	NM_001024790	Usp7	Ubiquitin specific peptidase 7 (herpes virus-associated)
G09	Rn.106818	NM_001039034	Wdr5	WD repeat domain 5
G10	Rn.7352	NM_001134871	Yaf2	YY1 associated factor 2
G11	Rn.162877	NM_173290	Yy1	YY1 transcription factor
G12	Rn.214576	NM_001013181	Zbtb16	Zinc finger and BTB domain containing 16
H01	Rn.94978	NM_031144	Actb	Actin, beta
H02	Rn.1868	NM_012512	B2m	Beta-2 microglobulin
H03	Rn.47	NM_012583	Hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H06	N/A	U26919	RGDC	Rat 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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