

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

Rat Polycomb & Trithorax Target Genes

Cat. no. 330231 PARN-505ZA

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 Target Genes RT² Profiler PCR Array profiles the expression of 84 key genes targeted by the Polycomb and Trithorax complexes of 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, as confirmed via expression changes of identified target genes reflected in the content of this array. Dysregulation of polycomb and trithorax complex activity promotes oncogenesis by causing inappropriate expression of cell identity and differentiation genes, making the study of target gene expression important to cancer research. Using real-time PCR, your research study can easily and reliably analyze the expression of a focused panel of genes targeted by polycomb and trithorax complexes 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	Atf3	Bhlhe40	Bmi1	Bmp2	Cadm1	Cbx8	Ccnd2	Cdc42ep1	Cdh11	Cdkn1a	Cdkn2c	Chst11
B	Cnfr	Ctsa	Cxcl16	Cxcr7	Cyp1b1	Dgat2	Dhh	Dkk1	Efnal	Efnb1	Egfr	Epha4
C	Ephb3	Flt1	Foxa2	G0s2	Gas6	Gata2	Gata3	Gata4	Gata6	Gmnn	Gnas	Hand1
D	Hes1	Hey1	Hmgn2	Hoxa10	Hoxa5	Hs3st1	Igfbp1	Il6r	Irx3	Jun	Kcna1	Klf4
E	Lox	Meis2	Mgl1	Myo5b	Nfix	Nid2	Nptx1	Otx2	Pdgfra	Plaur	Pmp22	Prkch
F	Prkg2	Ptpra	Rarb	Rasd1	Rassf1	Rbbp7	Rybp	Sall1	Satb1	Serpinb2	Slc30a4	Slc34a2
G	Smoc2	Sox17	Tacstd2	Tcf7	Thbd	Thpo	Timp3	Tmem66	Ucp1	Usp3	Vsnl1	Wnt5a
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.9664	NM_012912	Atf3	Activating transcription factor 3
A02	Rn.81055	NM_053328	Bhlhe40	Basic helix-loop-helix family, member e40
A03	Rn.220522	NM_001107368	Bmi1	Bmi1 polycomb ring finger oncogene
A04	Rn.90931	NM_017178	Bmp2	Bone morphogenetic protein 2
A05	Rn.19928	NM_001012201	Cadm1	Cell adhesion molecule 1
A06	Rn.43722	NM_001034078	Cbx8	Chromobox homolog 8 (Pc class homolog, Drosophila)
A07	Rn.96083	NM_022267	Ccnd2	Cyclin D2
A08	Rn.164707	NM_001079700	Cdc42ep1	CDC42 effector protein (Rho GTPase binding) 1
A09	Rn.8900	NM_053392	Cdh11	Cadherin 11
A10	Rn.10089	NM_080782	Cdkn1a	Cyclin-dependent kinase inhibitor 1A
A11	Rn.63865	NM_131902	Cdkn2c	Cyclin-dependent kinase inhibitor 2C (p18, inhibits CDK4)
A12	Rn.105288	NM_001108079	Chst11	Carbohydrate (chondroitin 4) sulfotransferase 11
B01	Rn.55036	NM_001003929	Cnfr	Ciliary neurotrophic factor receptor
B02	Rn.104631	NM_001011959	Ctsa	Cathepsin A
B03	Rn.7070	NM_001017478	Cxcl16	Chemokine (C-X-C motif) ligand 16
B04	Rn.12959	NM_053352	Cxcr7	Chemokine (C-X-C motif) receptor 7
B05	Rn.10125	NM_012940	Cyp1b1	Cytochrome P450, family 1, subfamily b, polypeptide 1
B06	Rn.9523	NM_001012345	Dgat2	Diacylglycerol O-acyltransferase homolog 2 (mouse)
B07	Rn.198251	NM_053367	Dhh	Desert hedgehog homolog (Drosophila)
B08	Rn.214343	NM_001106350	Dkk1	Dickkopf homolog 1 (Xenopus laevis)
B09	Rn.8427	NM_053599	Efnal	Ephrin A1
B10	Rn.44398	NM_017089	Efnb1	Ephrin B1
B11	Rn.37227	NM_031507	Egfr	Epidermal growth factor receptor
B12	Rn.6202	NM_001162411	Epha4	Eph receptor A4
C01	Rn.131133	NM_001105868	Ephb3	Eph receptor B3
C02	Rn.10239	NM_019306	Flt1	Fms-related tyrosine kinase 1
C03	Rn.10948	NM_012743	Foxa2	Forkhead box A2
C04	Rn.1040	NM_001009632	G0s2	G0/G1switch 2
C05	Rn.52228	NM_057100	Gas6	Growth arrest specific 6
C06	Rn.34322	NM_033442	Gata2	GATA binding protein 2
C07	Rn.92350	NM_133293	Gata3	GATA binding protein 3
C08	Rn.26251	NM_144730	Gata4	GATA binding protein 4
C09	Rn.8701	NM_019185	Gata6	GATA binding protein 6
C10	Rn.15438	NM_001106112	Gmnn	Geminin
C11	Rn.31	NM_019132	Gnas	GNAS complex locus
C12	Rn.39340	NM_021592	Hand1	Heart and neural crest derivatives expressed 1
D01	Rn.19727	NM_024360	Hes1	Hairy and enhancer of split 1 (Drosophila)
D02	Rn.98202	XM_342216	Hey1	Hairy/enhancer-of-split related with YRPW motif 1
D03	Rn.3517	NM_001025624	Hmgn2	High mobility group nucleosomal binding domain 2
D04	Rn.852	NM_001129878	Hoxa10	Homeo box A10
D05	Rn.8465	XM_001059031	Hoxa5	Homeo box A5
D06	Rn.17364	NM_053391	Hs3st1	Heparan sulfate (glucosamine) 3-O-sulfotransferase 1
D07	Rn.34026	NM_013144	Igfbp1	Insulin-like growth factor binding protein 1
D08	Rn.1716	NM_017020	Il6r	Interleukin 6 receptor
D09	Rn.22133	NM_001107413	Irx3	Iroquois homeobox 3

Position	UniGene	GenBank	Symbol	Description
D10	Rn.93714	NM_021835	Jun	Jun oncogene
D11	Rn.9769	NM_173095	Kcna1	Potassium voltage-gated channel, shaker-related subfamily, member 1
D12	Rn.7719	NM_053713	Klf4	Kruppel-like factor 4 (gut)
E01	Rn.11372	NM_017061	Lox	Lysyl oxidase
E02	Rn.45546	NM_001107758	Meis2	Meis homeobox 2
E03	Rn.40396	NM_138502	Mgll	Monoglyceride lipase
E04	Rn.10640	NM_017083	Myo5b	Myosin Vb
E05	Rn.56776	NM_030866	Nfix	Nuclear factor I/X (CCAAT-binding transcription factor)
E06	Rn.98892	NM_001012005	Nid2	Nidogen 2
E07	Rn.54707	NM_153735	Nptx1	Neuronal pentraxin 1
E08	Rn.35222	NM_001100566	Otx2	Orthodenticle homeobox 2
E09	Rn.55127	NM_012802	Pdgfra	Platelet derived growth factor receptor, alpha polypeptide
E10	Rn.82711	NM_017350	Plaur	Plasminogen activator, urokinase receptor
E11	Rn.1476	NM_017037	Pmp22	Peripheral myelin protein 22
E12	Rn.10398	NM_031085	Prkch	Protein kinase C, eta
F01	Rn.87721	NM_013012	Prkg2	Protein kinase, cGMP-dependent, type II
F02	Rn.18043	NM_012763	Ptpa	Protein tyrosine phosphatase, receptor type, A
F03	Rn.220045	XM_223843	Rarb	Retinoic acid receptor, beta
F04	Rn.54720	XM_340809	Rasd1	RAS, dexamethasone-induced 1
F05	Rn.83042	NM_001007754	Rassf1	Ras association (RalGDS/AF-6) domain family member 1
F06	Rn.3600	NM_031816	Rbbp7	Retinoblastoma binding protein 7
F07	Rn.33148	NM_001107879	Rybp	RING1 and YY1 binding protein
F08	Rn.32153	NM_001107415	Sall1	Sal-like 1 (Drosophila)
F09	Rn.21462	NM_001012129	Satb1	SATB homeobox 1
F10	Rn.42912	NM_021696	Serpib2	Serpin peptidase inhibitor, clade B (ovalbumin), member 2
F11	Rn.90036	NM_172066	Slc30a4	Solute carrier family 30 (zinc transporter), member 4
F12	Rn.16933	NM_053380	Slc34a2	Solute carrier family 34 (sodium phosphate), member 2
G01	Rn.6092	NM_001106215	Smoc2	SPARC related modular calcium binding 2
G02	Rn.7884	NM_001107902	Sox17	SRY (sex determining region Y)-box 17
G03	Rn.24809	NM_001009540	Tacstd2	Tumor-associated calcium signal transducer 2
G04	Rn.106335	XM_343891	Tcf7	Transcription factor 7, T-cell specific
G05	Rn.88295	NM_031771	Thbd	Thrombomodulin
G06	Rn.10576	NM_031133	Thpo	Thrombopoietin
G07	Rn.119634	NM_012886	Timp3	TIMP metalloproteinase inhibitor 3
G08	Rn.101865	NM_001004213	Tmem66	Transmembrane protein 66
G09	Rn.10281	NM_012682	Ucp1	Uncoupling protein 1 (mitochondrial, proton carrier)
G10	Rn.164920	NM_001025424	Usp3	Ubiquitin specific peptidase 3
G11	Rn.105934	NM_012686	Vsnl1	Visinin-like 1
G12	Rn.48749	NM_022631	Wnt5a	Wingless-type MMTV integration site family, member 5A
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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