

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

Human Polycomb & Trithorax Target Genes

Cat. no. 330231 PAHS-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 Human 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	BMI1	BMP2	CADM1	CBX8	CCND2	CDC42EP1	CDH11	CDKN1A	CHST11	CTSA	CXCL16
B	CXCR7	CYP1B1	DGAT2	DHH	DKK1	DKK2	EFNB1	EPHA4	EPHB3	ESX1	FAM65A	FOXA2
C	G0S2	GAS6	GATA2	GATA3	GATA4	GATA6	HAND1	HES1	HEY1	HMGN2	HOXA10	HOXA5
D	HS3ST1	HS6ST2	IGFBP1	IL6R	IRS4	IRX3	JUN	KCNA1	KLF4	LOX	MEIS2	MGLL
E	MYO5B	NID2	NPTX1	OTX2	PDGFRA	PMP22	PRKCH	PRKG2	PTPRA	RARB	RASD1	RASSF1
F	RBBP7	RYBP	SALL1	SATB1	SERPINF2	SLC30A4	SLC34A2	SMOC2	SOX17	TACSTD2	TCF7	THBD
G	THPO	TIMP3	TMEM66	TNFRSF19	TRIM10	TRIM15	TRPM3	TSHZ1	UCP1	USP3	VSNL1	WNT5A
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.460	NM_001674	ATF3	Activating transcription factor 3
A02	Hs.380403	NM_005180	BMI1	BMI1 polycomb ring finger oncogene
A03	Hs.73853	NM_001200	BMP2	Bone morphogenetic protein 2
A04	Hs.370510	NM_014333	CADM1	Cell adhesion molecule 1
A05	Hs.387258	NM_020649	CBX8	Chromobox homolog 8
A06	Hs.376071	NM_001759	CCND2	Cyclin D2
A07	Hs.225356	NM_152243	CDC42EP1	CDC42 effector protein (Rho GTPase binding) 1
A08	Hs.116471	NM_001797	CDH11	Cadherin 11, type 2, OB-cadherin (osteoblast)
A09	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
A10	Hs.17569	NM_018413	CHST11	Carbohydrate (chondroitin 4) sulfotransferase 11
A11	Hs.517076	NM_000308	CTSA	Cathepsin A
A12	Hs.708201	NM_022059	CXCL16	Chemokine (C-X-C motif) ligand 16
B01	Hs.471751	NM_020311	CXCR7	Chemokine (C-X-C motif) receptor 7
B02	Hs.154654	NM_000104	CYP1B1	Cytochrome P450, family 1, subfamily B, polypeptide 1
B03	Hs.334305	NM_032564	DGAT2	Diacylglycerol O-acyltransferase 2
B04	Hs.524382	NM_021044	DHH	Desert hedgehog
B05	Hs.40499	NM_012242	DKK1	Dickkopf homolog 1 (Xenopus laevis)
B06	Hs.211869	NM_014421	DKK2	Dickkopf homolog 2 (Xenopus laevis)
B07	Hs.144700	NM_004429	EFNB1	Ephrin-B1
B08	Hs.371218	NM_004438	EPHA4	EPH receptor A4
B09	Hs.2913	NM_004443	EPHB3	EPH receptor B3
B10	Hs.223782	NM_153448	ESX1	ESX homeobox 1
B11	Hs.152717	NM_024519	FAM65A	Family with sequence similarity 65, member A
B12	Hs.155651	NM_021784	FOXA2	Forkhead box A2
C01	Hs.432132	NM_015714	G0S2	G0/G1switch 2
C02	Hs.646346	NM_000820	GAS6	Growth arrest-specific 6
C03	Hs.367725	NM_032638	GATA2	GATA binding protein 2
C04	Hs.524134	NM_002051	GATA3	GATA binding protein 3
C05	Hs.243987	NM_002052	GATA4	GATA binding protein 4
C06	Hs.514746	NM_005257	GATA6	GATA binding protein 6
C07	Hs.152531	NM_004821	HAND1	Heart and neural crest derivatives expressed 1
C08	Hs.250666	NM_005524	HES1	Hairy and enhancer of split 1, (Drosophila)
C09	Hs.234434	NM_012258	HEY1	Hairy/enhancer-of-split related with YRPW motif 1
C10	Hs.181163	NM_005517	HMGN2	High mobility group nucleosomal binding domain 2
C11	Hs.110637	NM_018951	HOXA10	Homeobox A10
C12	Hs.655218	NM_019102	HOXA5	Homeobox A5
D01	Hs.507348	NM_005114	HS3ST1	Heparan sulfate (glucosamine) 3-O-sulfotransferase 1
D02	Hs.385956	NM_147175	HS6ST2	Heparan sulfate 6-O-sulfotransferase 2
D03	Hs.642938	NM_000596	IGFBP1	Insulin-like growth factor binding protein 1
D04	Hs.709210	NM_000565	IL6R	Interleukin 6 receptor
D05	Hs.592215	NM_003604	IRS4	Insulin receptor substrate 4
D06	Hs.499205	NM_024336	IRX3	Iroquois homeobox 3
D07	Hs.714791	NM_002228	JUN	Jun proto-oncogene
D08	Hs.416139	NM_000217	KCNA1	Potassium voltage-gated channel, shaker-related subfamily, member 1 (episodic ataxia with myokymia)

Position	UniGene	GenBank	Symbol	Description
D09	Hs.376206	NM_004235	KLF4	Kruppel-like factor 4 (gut)
D10	Hs.102267	NM_002317	LOX	Lysyl oxidase
D11	Hs.510989	NM_172316	MEIS2	Meis homeobox 2
D12	Hs.277035	NM_007283	MGLL	Monoglyceride lipase
E01	Hs.567308	NM_001080467	MYO5B	Myosin VB
E02	Hs.369840	NM_007361	NID2	Nidogen 2 (osteonidogen)
E03	Hs.514556	NM_002522	NPTX1	Neuronal pentraxin I
E04	Hs.288655	NM_021728	OTX2	Orthodenticle homeobox 2
E05	Hs.74615	NM_006206	PDGFRA	Platelet-derived growth factor receptor, alpha polypeptide
E06	Hs.372031	NM_000304	PMP22	Peripheral myelin protein 22
E07	Hs.333907	NM_006255	PRKCH	Protein kinase C, eta
E08	Hs.570833	NM_006259	PRKG2	Protein kinase, cGMP-dependent, type II
E09	Hs.269577	NM_002836	PTPRA	Protein tyrosine phosphatase, receptor type, A
E10	Hs.654490	NM_000965	RARB	Retinoic acid receptor, beta
E11	Hs.25829	NM_016084	RASD1	RAS, dexamethasone-induced 1
E12	Hs.476270	NM_007182	RASSF1	Ras association (RalGDS/AF-6) domain family member 1
F01	Hs.495755	NM_002893	RBBP7	Retinoblastoma binding protein 7
F02	Hs.694786	NM_012234	RYBP	RING1 and YY1 binding protein
F03	Hs.135787	NM_002968	SALL1	Sal-like 1 (Drosophila)
F04	Hs.517717	NM_002971	SATB1	SATB homeobox 1
F05	Hs.594481	NM_002575	SERPINB2	Serpin peptidase inhibitor, clade B (ovalbumin), member 2
F06	Hs.162989	NM_013309	SLC30A4	Solute carrier family 30 (zinc transporter), member 4
F07	Hs.479372	NM_006424	SLC34A2	Solute carrier family 34 (sodium phosphate), member 2
F08	Hs.487200	NM_022138	SMOC2	SPARC related modular calcium binding 2
F09	Hs.98367	NM_022454	SOX17	SRY (sex determining region Y)-box 17
F10	Hs.23582	NM_002353	TACSTD2	Tumor-associated calcium signal transducer 2
F11	Hs.573153	NM_003202	TCF7	Transcription factor 7 (T-cell specific, HMG-box)
F12	Hs.2030	NM_000361	THBD	Thrombomodulin
G01	Hs.1166	NM_000460	THPO	Thrombopoietin
G02	Hs.644633	NM_000362	TIMP3	TIMP metalloproteinase inhibitor 3
G03	Hs.521487	NM_016127	TMEM66	Transmembrane protein 66
G04	Hs.149168	NM_018647	TNFRSF19	Tumor necrosis factor receptor superfamily, member 19
G05	Hs.709483	NM_006778	TRIM10	Tripartite motif containing 10
G06	Hs.591789	NM_033229	TRIM15	Tripartite motif containing 15
G07	Hs.47288	NM_020952	TRPM3	Transient receptor potential cation channel, subfamily M, member 3
G08	Hs.284217	NM_005786	TSHZ1	Teashirt zinc finger homeobox 1
G09	Hs.249211	NM_021833	UCP1	Uncoupling protein 1 (mitochondrial, proton carrier)
G10	Hs.458499	NM_006537	USP3	Ubiquitin specific peptidase 3
G11	Hs.444212	NM_003385	VSNL1	Visinin-like 1
G12	Hs.696364	NM_003392	WNT5A	Wingless-type MMTV integration site family, member 5A
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human 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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