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

Human Epigenetic Chromatin Modification Enzymes

Cat. no. 330231 PAHS-085ZA

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 Human Epigenetic Chromatin Modification Enzymes RT² Profiler PCR Array profiles the expression of 84 key genes encoding enzymes known or predicted to modify genomic DNA and histones to regulate chromatin accessibility and therefore gene expression. The de novo and maintenance DNA methyltransferases, and the enzymes responsible for demethylation of CpG dinucleotides are represented by the array. Enzymes catalyzing histone acetylation, methylation, phosphorylation, and ubiquitination are also included on the array as well as the enzymes the deacetylases and demethylases. The array also analyzes genes encoding the SET domain proteins, which all contain a homologous domain that demonstrates histone methyltransferase activity in some family members. During the development of stem cells to terminally differentiated cells, altered expression occurs for many of these genes to control chromatin dynamics. These genes also exhibit different expression profiles in tumor cells relative to normal cells, suggesting a role for chromatin modification and remodeling in oncogenesis. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in epigenetic chromatin modifications 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	ASH1L	ATF2	AURKA	AURKB	AURKC	CARM1	CDYL	CIITA	CSRP2BP	DNMT1	DNMT3A	DNMT3B
B	DOT1L	DZIP3	EHMT2	ESCO1	ESCO2	HAT1	HDAC1	HDAC10	HDAC11	HDAC2	HDAC3	HDAC4
C	HDAC5	HDAC6	HDAC7	HDAC8	HDAC9	KAT2A	KAT2B	KAT5	KAT6A	KAT6B	KAT7	KAT8
D	KDM1A	KDM4A	KDM4C	KDM5B	KDM5C	KDM6B	MBD2	MLL	MLL3	MLL5	MYSM1	NCOA1
E	NCOA3	NCOA6	NEK6	NSD1	PAK1	PRMT1	PRMT2	PRMT3	PRMT5	PRMT6	PRMT7	PRMT8
F	RNF2	RNF20	RPS6KA3	RPS6KA5	SETD1A	SETD1B	SETD2	SETD3	SETD4	SETD5	SETD6	SETD7
G	SETD8	SETDB1	SETDB2	SMYD3	SUV39H1	SUV420H1	UBE2A	UBE2B	USP16	USP21	USP22	WHSC1
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.491060	NM_018489	ASH1L	Ash1 (absent, small, or homeotic)-like (Drosophila)
A02	Hs.592510	NM_001880	ATF2	Activating transcription factor 2
A03	Hs.250822	NM_003600	AURKA	Aurora kinase A
A04	Hs.442658	NM_004217	AURKB	Aurora kinase B
A05	Hs.98338	NM_003160	AURKC	Aurora kinase C
A06	Hs.371416	NM_199141	CARM1	Coactivator-associated arginine methyltransferase 1
A07	Hs.269092	NM_004824	CDYL	Chromodomain protein, Y-like
A08	Hs.701991	NM_000246	CIITA	Class II, major histocompatibility complex, transactivator
A09	Hs.728790	NM_020536	CSRP2BP	CSRP2 binding protein
A10	Hs.202672	NM_001379	DNMT1	DNA (cytosine-5-)-methyltransferase 1
A11	Hs.515840	NM_022552	DNMT3A	DNA (cytosine-5-)-methyltransferase 3 alpha
A12	Hs.643024	NM_006892	DNMT3B	DNA (cytosine-5-)-methyltransferase 3 beta
B01	Hs.713641	NM_032482	DOT1L	DOT1-like, histone H3 methyltransferase (S. cerevisiae)
B02	Hs.409210	NM_014648	DZIP3	DAZ interacting protein 3, zinc finger
B03	Hs.709218	NM_006709	EHMT2	Euchromatic histone-lysine N-methyltransferase 2
B04	Hs.464733	NM_052911	ESCO1	Establishment of cohesion 1 homolog 1 (S. cerevisiae)
B05	Hs.99480	NM_001017420	ESCO2	Establishment of cohesion 1 homolog 2 (S. cerevisiae)
B06	Hs.632532	NM_003642	HAT1	Histone acetyltransferase 1
B07	Hs.88556	NM_004964	HDAC1	Histone deacetylase 1
B08	Hs.26593	NM_032019	HDAC10	Histone deacetylase 10
B09	Hs.404802	NM_024827	HDAC11	Histone deacetylase 11
B10	Hs.3352	NM_001527	HDAC2	Histone deacetylase 2
B11	Hs.519632	NM_003883	HDAC3	Histone deacetylase 3
B12	Hs.20516	NM_006037	HDAC4	Histone deacetylase 4
C01	Hs.438782	NM_005474	HDAC5	Histone deacetylase 5
C02	Hs.6764	NM_006044	HDAC6	Histone deacetylase 6
C03	Hs.200063	NM_001098416	HDAC7	Histone deacetylase 7
C04	Hs.310536	NM_018486	HDAC8	Histone deacetylase 8
C05	Hs.196054	NM_178425	HDAC9	Histone deacetylase 9
C06	Hs.463045	NM_021078	KAT2A	K(lysine) acetyltransferase 2A
C07	Hs.533055	NM_003884	KAT2B	K(lysine) acetyltransferase 2B
C08	Hs.528299	NM_006388	KAT5	K(lysine) acetyltransferase 5
C09	Hs.491577	NM_006766	KAT6A	K(lysine) acetyltransferase 6A
C10	Hs.35758	NM_012330	KAT6B	K(lysine) acetyltransferase 6B
C11	Hs.21907	NM_007067	KAT7	K(lysine) acetyltransferase 7
C12	Hs.533803	NM_032188	KAT8	K(lysine) acetyltransferase 8
D01	Hs.591518	NM_015013	KDM1A	Lysine (K)-specific demethylase 1A
D02	Hs.155983	NM_014663	KDM4A	Lysine (K)-specific demethylase 4A
D03	Hs.709425	NM_015061	KDM4C	Lysine (K)-specific demethylase 4C
D04	Hs.443650	NM_006618	KDM5B	Lysine (K)-specific demethylase 5B
D05	Hs.631768	NM_004187	KDM5C	Lysine (K)-specific demethylase 5C
D06	Hs.223678	NM_001080424	KDM6B	Lysine (K)-specific demethylase 6B
D07	Hs.25674	NM_003927	MBD2	Methyl-CpG binding domain protein 2
D08	Hs.258855	NM_005933	MLL	Myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosophila)
D09	Hs.647120	NM_170606	MLL3	Myeloid/lymphoid or mixed-lineage leukemia 3

Position	UniGene	GenBank	Symbol	Description
D10	Hs.592262	NM_182931	MLL5	Myeloid/lymphoid or mixed-lineage leukemia 5 (trithorax homolog, Drosophila)
D11	Hs.709264	NM_001085487	MYSM1	Myb-like, SWIRM and MPN domains 1
D12	Hs.596314	NM_003743	NCOA1	Nuclear receptor coactivator 1
E01	Hs.592142	NM_181659	NCOA3	Nuclear receptor coactivator 3
E02	Hs.368971	NM_014071	NCOA6	Nuclear receptor coactivator 6
E03	Hs.197071	NM_014397	NEK6	NIMA (never in mitosis gene a)-related kinase 6
E04	Hs.106861	NM_022455	NSD1	Nuclear receptor binding SET domain protein 1
E05	Hs.435714	NM_002576	PAK1	P21 protein (Cdc42/Rac)-activated kinase 1
E06	Hs.20521	NM_001536	PRMT1	Protein arginine methyltransferase 1
E07	Hs.154163	NM_001535	PRMT2	Protein arginine methyltransferase 2
E08	Hs.152337	NM_005788	PRMT3	Protein arginine methyltransferase 3
E09	Hs.367854	NM_006109	PRMT5	Protein arginine methyltransferase 5
E10	Hs.26006	NM_018137	PRMT6	Protein arginine methyltransferase 6
E11	Hs.712584	NM_019023	PRMT7	Protein arginine methyltransferase 7
E12	Hs.504530	NM_019854	PRMT8	Protein arginine methyltransferase 8
F01	Hs.591490	NM_007212	RNF2	Ring finger protein 2
F02	Hs.729085	NM_019592	RNF20	Ring finger protein 20
F03	Hs.445387	NM_004586	RPS6KA3	Ribosomal protein S6 kinase, 90kDa, polypeptide 3
F04	Hs.510225	NM_004755	RPS6KA5	Ribosomal protein S6 kinase, 90kDa, polypeptide 5
F05	Hs.297483	NM_014712	SETD1A	SET domain containing 1A
F06	Hs.507122	NM_015048	SETD1B	SET domain containing 1B
F07	Hs.517941	NM_014159	SETD2	SET domain containing 2
F08	Hs.510407	NM_199123	SETD3	SET domain containing 3
F09	Hs.606200	NM_017438	SETD4	SET domain containing 4
F10	Hs.288164	NM_001080517	SETD5	SET domain containing 5
F11	Hs.592060	NM_024860	SETD6	SET domain containing 6
F12	Hs.480792	NM_030648	SETD7	SET domain containing (lysine methyltransferase) 7
G01	Hs.572262	NM_020382	SETD8	SET domain containing (lysine methyltransferase) 8
G02	Hs.643565	NM_012432	SETDB1	SET domain, bifurcated 1
G03	Hs.631789	NM_031915	SETDB2	SET domain, bifurcated 2
G04	Hs.567571	NM_022743	SMYD3	SET and MYND domain containing 3
G05	Hs.522639	NM_003173	SUV39H1	Suppressor of variegation 3-9 homolog 1 (Drosophila)
G06	Hs.632120	NM_016028	SUV420H1	Suppressor of variegation 4-20 homolog 1 (Drosophila)
G07	Hs.379466	NM_003336	UBE2A	Ubiquitin-conjugating enzyme E2A
G08	Hs.730071	NM_003337	UBE2B	Ubiquitin-conjugating enzyme E2B
G09	Hs.99819	NM_006447	USP16	Ubiquitin specific peptidase 16
G10	Hs.8015	NM_012475	USP21	Ubiquitin specific peptidase 21
G11	Hs.462492	NM_015276	USP22	Ubiquitin specific peptidase 22
G12	Hs.113876	NM_007331	WHSC1	Wolf-Hirschhorn syndrome candidate 1
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.
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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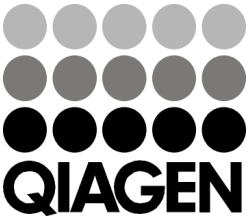

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