RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Epigenetic Chromatin Modification Enzymes

Cat. no. 330231 PARN-085ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Rat 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

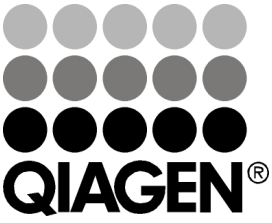
RT² Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

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

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc™ (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance.

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.31695	NM_001107343	Aof1	Amine oxidase (flavin containing) domain 1
A02	Rn.206058	NM_001107689	Ash1l	Ash1 (absent, small, or homeotic)-like (Drosophila)
A03	Rn.219095	NM_001106089	Ash2l	Ash2 (absent, small, or homeotic)-like (Drosophila)
A04	Rn.9825	NM_031018	Atf2	Activating transcription factor 2
A05	Rn.161874	NM_153296	Aurka	Aurora kinase A
A06	Rn.10865	NM_053749	Aurkb	Aurora kinase B
A07	Rn.41092	NM_001106221	Aurkc	Aurora kinase C
A08	Rn.7043	XM_347166	Baz1b	Bromodomain adjacent to zinc finger domain, 1B
A09	Rn.103225	NM_031542	Brca2	Breast cancer 2
A10	Rn.104460	NM_199501	Cdk2	Cyclin dependent kinase 2
A11	Rn.162013	NM_053529	Ciita	Class II, major histocompatibility complex, transactivator
A12	Rn.108128	NM_133381	Crebbp	CREB binding protein
B01	Rn.86349	NM_001079698	Cxxc1	CXXC finger 1 (PHD domain)
B02	Rn.6955	NM_053354	Dnmt1	DNA (cytosine-5-)-methyltransferase 1
B03	Rn.92659	NM_001003958	Dnmt3a	DNA (cytosine-5-)-methyltransferase 3 alpha
B04	Rn.117353	NM_001003959	Dnmt3b	DNA (cytosine-5-)-methyltransferase 3 beta
B05	Rn.18027	NM_001108733	Dot1l	DOT1-like, histone H3 methyltransferase (S. cerevisiae)
B06	Rn.17092	NM_001106557	Edf1	Endothelial differentiation-related factor 1
B07	Rn.3939	NM_001106278	Eed	Embryonic ectoderm development
B08	Rn.7645	NM_001108572	Ehmt1	Euchromatic histone-lysine N-methyltransferase 1
B09	Rn.116518	NM_212463	Ehmt2	Euchromatic histone lysine N-methyltransferase 2
B10	Rn.12447	XM_576312	Ep300	E1A binding protein p300
B11	Rn.219240	NM_001100972	Epc1	Enhancer of polycomb homolog 1 (Drosophila)
B12	Rn.9027	NM_001134979	Ezh2	Enhancer of zeste homolog 2 (Drosophila)
C01	Rn.36585	NM_181631	Fbxo11	F-box protein 11
C02	Rn.139751	NM_001009657	Hat1	Histone acetyltransferase 1
C03	Rn.1863	NM_001025409	Hdac1	Histone deacetylase 1
C04	Rn.107028	NM_001035000	Hdac10	Histone deacetylase 10
C05	Rn.28065	NM_001106610	Hdac11	Histone deacetylase 11
C06	Rn.1797	NM_053447	Hdac2	Histone deacetylase 2
C07	Rn.17284	NM_053448	Hdac3	Histone deacetylase 3
C08	Rn.23483	XM_343629	Hdac4	Histone deacetylase 4
C09	Rn.79863	NM_053450	Hdac5	Histone deacetylase 5
C10	Rn.13453	XM_228753	Hdac6	Histone deacetylase 6
C11	Rn.203327	XM_345868	Hdac7	Histone deacetylase 7
C12	Rn.208476	NM_001126373	Hdac8	Histone deacetylase 8
D01	Rn.198197	XM_234063	Hdac9	Histone deacetylase 9
D02	Rn.52988	NM_001034107	Ing3	Inhibitor of growth family, member 3
D03	Rn.19923	NM_001012143	Jmjd6	Jumonji domain containing 6
D04	Rn.53502	NM_001107050	Kat2a	K(lysine) acetyltransferase 2A
D05	Rn.6629	NM_001005872	Kat5	K(lysine) acetyltransferase 5
D06	Rn.4085	NM_001115025	Mbd2	Methyl-CpG binding domain protein 2
D07	Rn.7360	NM_001034079	Med24	Mediator complex subunit 24
D08	Rn.6775	NM_019208	Men1	Multiple endocrine neoplasia 1
D09	Rn.62341	NM_001108139	Mll1	Myeloid/lymphoid or mixed-lineage leukemia 1
D10	Rn.106040	XM_231287	Mll5	Myeloid/lymphoid or mixed-lineage leukemia 5 (trithorax homolog, Drosophila)
D11	Rn.137719	NM_001100740	Mta2	Metastasis associated 1 family, member 2
D12	Rn.205579	NM_001017378	Myst1	MYST histone acetyltransferase 1
E01	Rn.12618	NM_181081	Myst2	MYST histone acetyltransferase 2
E02	Rn.33802	NM_001100570	Myst3	MYST histone acetyltransferase (monocytic leukemia) 3
E03	Rn.20691	XM_215947	Ncoa3	Nuclear receptor coactivator 3
E04	Rn.9077	XM_342552	Ncoa6	Nuclear receptor coactivator 6
E05	Rn.24948	XM_001077495	Ncor1	Nuclear receptor co-repressor 1
E06	Rn.18744	NM_182953	Nek6	NIMA (never in mitosis gene a)-related kinase 6
E07	Rn.19435	NM_001107337	Nsd1	Nuclear receptor binding SET domain protein 1
E08	Rn.9149	NM_017198	Pak1	P21 protein (Cdc42/Rac)-activated kinase 1
E09	Rn.202632	NM_001077648	Prdm2	PR domain containing 2, with ZNF domain

Position	UniGene	GenBank	Symbol	Description
E10	Rn.124847	NM_001108903	Prdm9	PR domain containing 9
E11	Rn.5870	NM_024363	Prmt1	Protein arginine methyltransferase 1
E12	Rn.145566	NM_001025144	Prmt2	Protein arginine methyltransferase 2
F01	Rn.101808	NM_001108867	Prmt5	Protein arginine methyltransferase 5
F02	Rn.18530	NM_001106466	Prmt6	Protein arginine methyltransferase 6
F03	Rn.14954	NM_001014153	Prmt7	Protein arginine methyltransferase 7
F04	Rn.11774	NM_001107174	Rbbp5	Retinoblastoma binding protein 5
F05	Rn.19719	NM_001025667	Rnf2	Ring finger protein 2
F06	Rn.15969	NM_001107929	Rnf20	Ring finger protein 20
F07	Rn.162466	NM_153471	Rnf40	Ring finger protein 40
F08	Rn.8940	NM_001108048	Rps6ka5	Ribosomal protein S6 kinase, polypeptide 5
F09	Rn.24842	NM_001113747	Setd4	SET domain containing 4
F10	Rn.49964	NM_001106614	Setd5	SET domain containing 5
F11	Rn.18307	NM_001106167	Setd6	SET domain containing 6
F12	Rn.141376	XM_224248	Setdb2	SET domain, bifurcated 2
G01	Rn.219976	NM_001107627	Sirt1	Sirtuin (silent mating type information regulation 2 homolog) 1 (S. cerevisiae)
G02	Rn.59887	NM_001008368	Sirt2	Sirtuin (silent mating type information regulation 2 homolog) 2 (S. cerevisiae)
G03	Rn.203854	NM_001106595	Smyd1	SET and MYND domain containing 1
G04	Rn.28284	NM_001025762	Smyd3	SET and MYND domain containing 3
G05	Rn.11526	NM_001108010	Supt7l	Suppressor of Ty 7 (S. cerevisiae)-like
G06	Rn.98526	NM_001106956	Suv39h1	Suppressor of variegation 3-9 homolog 1 (Drosophila)
G07	Rn.154750	NM_001108883	Suv39h2	Suppressor of variegation 3-9 homolog 2 (Drosophila)
G08	Rn.203473	NM_001108512	Suv420h1	Suppressor of variegation 4-20 homolog 1 (Drosophila)
G09	Rn.105145	NM_001107475	Suv420h2	Suppressor of variegation 4-20 homolog 2 (Drosophila)
G10	Rn.8585	NM_001013933	Ube2a	Ubiquitin-conjugating enzyme E2A (RAD6 homolog)
G11	Rn.20766	NM_031138	Ube2b	Ubiquitin-conjugating enzyme E2B (RAD6 homolog, S. cerevisiae)
G12	Rn.55800	NM_001100501	Usp16	Ubiquitin specific peptidase 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.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² SYBR Green ROX™ FAST Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers	330620

* 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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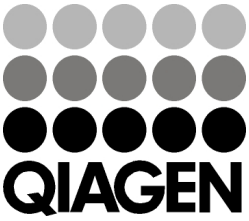

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