RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Epigenetic Chromatin Remodeling Factors

Cat. no. 330231 PARN-086ZR

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 Remodeling Factors RT² Profiler PCR Array profiles the expression of 84 key genes involved in recognizing chromatin modifications and remodeling chromatin to regulate chromatin accessibility and therefore gene expression. Many of these genes contain the chromodomain responsible for ATP hydrolysis-dependent chromatin reorganization. Chromodomain proteins either activate or repress transcription depending on their additional domains and the proteins they recruit. Chromobox domain proteins recognize methylated histone lysine residues and mediate transcriptional repression. Bromodomains and plant homeodomains (PHD) respectively bind acetylated and methylated histone lysine residues and seem to work cooperatively. Other genes on this array, such as the Inhibitor of Growth (ING) family, associate with and modulate histone acetyltransferase and deacetylase complex activity, while still others directly bind methylated CpG DNA. 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 remodeling with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

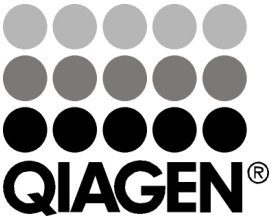
Shipping and storage

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.61077	NM_001106635	Arid1a	AT rich interactive domain 1A (SWI-like)
A02	Rn.22598	NM_172157	Arid1b	AT rich interactive domain 1B (Swi1 like)
A03	Rn.1864	XM_234156	Baz1a	Bromodomain adjacent to zinc finger domain, 1A
A04	Rn.7043	XM_347166	Baz1b	Bromodomain adjacent to zinc finger domain, 1B
A05	Rn.11607	NM_001107158	Baz2a	Bromodomain adjacent to zinc finger domain, 2A
A06	Rn.139712	NM_001108260	Baz2b	Bromodomain adjacent to zinc finger domain, 2B
A07	Rn.220522	NM_001107368	Bmi1	Bmi1 polycomb ring finger oncogene
A08	Rn.9133	NM_001108103	Brd1	Bromodomain containing 1
A09	Rn.98146	NM_212495	Brd2	Bromodomain containing 2
A10	Rn.16796	NM_001108575	Brd3	Bromodomain containing 3
A11	Rn.12110	NM_001100903	Brd4	Bromodomain containing 4
A12	Rn.32686	NM_001108440	Brd7	Bromodomain containing 7
B01	Rn.98723	NM_001008509	Brd8	Bromodomain containing 8
B02	Rn.162229	NM_001012031	Brdt	Bromodomain, testis-specific
B03	Rn.160093	XM_001054156	Brpf1	Bromodomain and PHD finger containing, 1
B04	Rn.214091	NM_001107615	Brpf3	Bromodomain and PHD finger containing, 3
B05	Rn.205787	NM_001107106	Brwd1	Bromodomain and WD repeat domain containing 1
B06	Rn.13839	NM_001107071	Cbx2	Chromobox homolog 2 (Pc class homolog, Drosophila)
B07	Rn.101856	NM_001106797	Cbx5	Chromobox homolog 5 (HP1 alpha homolog, Drosophila)
B08	Rn.161995	NM_001012119	Cbx6	Chromobox homolog 6
B09	Rn.12512	NM_199117	Cbx7	Chromobox homolog 7
B10	Rn.43722	NM_001034078	Cbx8	Chromobox homolog 8 (Pc class homolog, Drosophila)
B11	Rn.104867	NM_001106189	Cdyl2	Chromodomain protein, Y chromosome-like 2
B12	Rn.218360	NM_001107465	Chd1	Chromodomain helicase DNA binding protein 1
C01	Rn.1478	NM_001107704	Chd1l	Chromodomain helicase DNA binding protein 1-like
C02	Rn.1779	NM_001107523	Chd2	Chromodomain helicase DNA binding protein 2
C03	Rn.204523	XM_220602	Chd3	Chromodomain helicase DNA binding protein 3
C04	Rn.63247	XM_232354	Chd4	Chromodomain helicase DNA binding protein 4
C05	Rn.43055	NM_001107797	Chd6	Chromodomain helicase DNA binding protein 6
C06	Rn.37783	NM_001107906	Chd7	Chromodomain helicase DNA binding protein 7
C07	Rn.98337	NM_022933	Chd8	Chromodomain helicase DNA binding protein 8
C08	Rn.3946	NM_019201	Ctbp1	C-terminal binding protein 1
C09	Rn.138124	NM_053335	Ctbp2	C-terminal binding protein 2
C10	Rn.18612	NM_031824	Ctcf	CCCTC-binding factor (zinc finger protein)
C11	Rn.22845	NM_001015006	Dmap1	DNA methyltransferase 1-associated protein 1
C12	Rn.212639	XM_233986	E2f6	E2F transcription factor 6
D01	Rn.3939	NM_001106278	Eed	Embryonic ectoderm development
D02	Rn.9027	NM_001134979	Ezh2	Enhancer of zeste homolog 2 (Drosophila)
D03	Rn.145491	NM_001038591	Ing1	Inhibitor of growth family, member 1
D04	Rn.20482	NM_001106083	Ing2	Inhibitor of growth family, member 2
D05	Rn.52988	NM_001034107	Ing3	Inhibitor of growth family, member 3
D06	Rn.48967	NM_001079887	Ing4	Inhibitor of growth family, member 4
D07	Rn.214030	NM_001108810	Ing5	Inhibitor of growth family, member 5
D08	Rn.3310	NM_001011924	Mbd1	Methyl-CpG binding domain protein 1
D09	Rn.4085	NM_001115025	Mbd2	Methyl-CpG binding domain protein 2
D10	Rn.145218	XM_343162	Mbd3	Methyl-CpG binding domain protein 3
D11	Rn.179073	XM_001059437	Mbd4	Methyl-CpG binding domain protein 4
D12	Rn.9680	NM_022673	Mecp2	Methyl CpG binding protein 2
E01	Rn.5840	NM_022588	Mta1	Metastasis associated 1
E02	Rn.137719	NM_001100740	Mta2	Metastasis associated 1 family, member 2
E03	Rn.161939	NM_001134874	Nab2	Ngfi-A binding protein 2
E04	Rn.9077	XM_342552	Ncoa6	Nuclear receptor coactivator 6
E05	Rn.19435	NM_001107337	Nsd1	Nuclear receptor binding SET domain protein 1
E06	Rn.203514	NM_001007000	Pcgf1	Polycomb group ring finger 1
E07	Rn.11826	NM_001105836	Pcgf2	Polycomb group ring finger 2
E08	Rn.8211	NM_001107245	Pcgf3	Polycomb group ring finger 3
E09	Rn.16897	NM_001013154	Pcgf6	Polycomb group ring finger 6

Position	UniGene	GenBank	Symbol	Description
E10	Rn.139784	NM_001107886	Phc1	Polyhomeotic homolog 1 (Drosophila)
E11	Rn.2428	NM_001013169	Phc2	Polyhomeotic homolog 2 (Drosophila)
E12	Rn.24149	NM_212538	Phf1	PHD finger protein 1
F01	Rn.162136	NM_001107995	Phf13	PHD finger protein 13
F02	Rn.166379	NM_001107342	Phf2	PHD finger protein 2
F03	Rn.198794	NM_001130680	Phf21b	PHD finger protein 21B
F04	Rn.21075	NM_001108791	Phf3	PHD finger protein 3
F05	Rn.9116	NM_138888	Phf5a	PHD finger protein 5A
F06	Rn.24375	NM_001012211	Phf7	PHD finger protein 7
F07	Rn.116589	NM_212549	Ring1	Ring finger protein 1
F08	Rn.19719	NM_001025667	Rnf2	Ring finger protein 2
F09	Rn.7554	XM_214697	Sf3b3	Splicing factor 3b, subunit 3
F10	Rn.2515	NM_001107470	Shprh	SNF2 histone linker PHD RING helicase
F11	Rn.94939	NM_001004446	Smarca2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2
F12	Rn.23417	NM_134368	Smarca4	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4
G01	Rn.221918	NM_001107419	Smarca5	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 5
G02	Rn.7758	NM_001107864	Smarcad1	SWI/SNF-related, matrix-associated actin-dependent regulator of chromatin, subfamily a, containing DEAD/H box 1
G03	Rn.34679	NM_001108222	Smarcal1	Swi/SNF related matrix associated, actin dependent regulator of chromatin, subfamily a-like 1
G04	Rn.73954	NM_001025728	Smarcb1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily b, member 1
G05	Rn.21196	NM_001108752	Smarcd1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 1
G06	Rn.3053	NM_031983	Smarcd2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 2
G07	Rn.20043	NM_001011966	Smarcd3	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3
G08	Rn.8513	NM_001024993	Smarce1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily e, member 1
G09	Rn.99178	XM_345315	Spen	SPEN homolog, transcriptional regulator (Drosophila)
G10	Rn.8393	NM_001106115	Trim27	Tripartite motif-containing 27
G11	Rn.162877	NM_173290	Yy1	YY1 transcription factor
G12	Rn.219272	NM_001100838	Zmynd8	Zinc finger, MYND-type containing 8
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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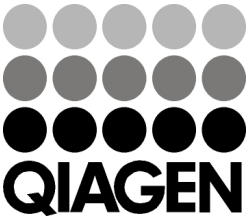

Sample & Assay Technologies