

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

Rat Cell Cycle

Cat. no. 330231 PARN-020ZA

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 Cell Cycle RT² Profiler PCR Array profiles the expression of 84 genes key to cell cycle regulation. This array contains genes that both positively and negatively regulate the cell cycle, the transitions between the each of the phases, DNA replication, checkpoints and arrest. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to the cell cycle 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	Abl1	Atm	Aurka	Aurkb	Bcl2	Birc5	Brca1	Brca2	Casp3	Ccna1	Ccna2	Ccnb1
B	Ccnb2	Ccnc	Ccnd1	Ccnd2	Ccnd3	Ccne1	Ccnf	Cdc20	Cdc25a	Cdc25b	Cdc25c	Cdc6
C	Cdc7	Cdk1	Cdk2	Cdk4	Cdk5rap1	Cdk6	Cdkn1a	Cdkn1b	Cdkn2a	Cdkn2b	Cdkn3	Chek1
D	Chek2	Ddit3	Dst	E2f1	E2f3	E2f4	Gadd45a	Gpr132	Hus1	Inha	Ilgb1	LOC367976
E	Mad2l1	Mcm2	Mcm4	Mdm2	Mki67	Mre11a	Msh2	Nbn	Nek2	Notch2	Pkd1	Pmp22
F	Ppm1d	Rad17	Rad21	Rad51	Rad9	Ran	Rb1	Rbl1	Rb12	RGD1560225	RGD1566319	Sfn
G	Shc1	Skp2	Sln1	Smc1a	Stag1	Slmn1	Terf1	Tfip2	Tp53	Tp63	Tsg101	Wee1
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.3105	NM_001100850	Abl1	C-abl oncogene 1, receptor tyrosine kinase
A02	Rn.214048	NM_001106821	Atm	Ataxia telangiectasia mutated homolog (human)
A03	Rn.161874	NM_153296	Aurka	Aurora kinase A
A04	Rn.10865	NM_053749	Aurkb	Aurora kinase B
A05	Rn.9996	NM_016993	Bcl2	B-cell CLL/lymphoma 2
A06	Rn.54471	NM_022274	Birc5	Baculoviral IAP repeat-containing 5
A07	Rn.48840	NM_012514	Brca1	Breast cancer 1
A08	Rn.103225	NM_031542	Brca2	Breast cancer 2
A09	Rn.10562	NM_012922	Casp3	Caspase 3
A10	Rn.102823	NM_001011949	Ccna1	Cyclin A1
A11	Rn.13094	NM_053702	Ccna2	Cyclin A2
A12	Rn.9232	NM_171991	Ccnb1	Cyclin B1
B01	Rn.6743	NM_001009470	Ccnb2	Cyclin B2
B02	Rn.106758	NM_001100472	Ccnc	Cyclin C
B03	Rn.22279	NM_171992	Ccnd1	Cyclin D1
B04	Rn.96083	NM_022267	Ccnd2	Cyclin D2
B05	Rn.3483	NM_012766	Ccnd3	Cyclin D3
B06	Rn.15455	NM_001100821	Ccne1	Cyclin E1
B07	Rn.15126	NM_001100474	Ccnf	Cyclin F
B08	Rn.9262	NM_171993	Cdc20	Cell division cycle 20 homolog (S. cerevisiae)
B09	Rn.11390	NM_133571	Cdc25a	Cell division cycle 25 homolog A (S. pombe)
B10	Rn.11312	NM_133572	Cdc25b	Cell division cycle 25 homolog B (S. pombe)
B11	Rn.162298	NM_001107396	Cdc25c	Cell division cycle 25 homolog C (S. pombe)
B12	Rn.219688	NM_001108298	Cdc6	Cell division cycle 6 homolog (S. cerevisiae)
C01	Rn.52843	NM_001108352	Cdc7	Cell division cycle 7 homolog (S. cerevisiae)
C02	Rn.6934	NM_019296	Cdk1	Cyclin-dependent kinase 1
C03	Rn.104460	NM_199501	Cdk2	Cyclin dependent kinase 2
C04	Rn.6115	NM_053593	Cdk4	Cyclin-dependent kinase 4
C05	Rn.203271	NM_145721	Cdk5rap1	CDK5 regulatory subunit associated protein 1
C06	Rn.162731	XM_342638	Cdk6	Cyclin-dependent kinase 6
C07	Rn.10089	NM_080782	Cdkn1a	Cyclin-dependent kinase inhibitor 1A
C08	Rn.29897	NM_031762	Cdkn1b	Cyclin-dependent kinase inhibitor 1B
C09	Rn.48717	NM_031550	Cdkn2a	Cyclin-dependent kinase inhibitor 2A
C10	Rn.105626	NM_130812	Cdkn2b	Cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)
C11	Rn.107220	NM_001106028	Cdkn3	Cyclin-dependent kinase inhibitor 3
C12	Rn.33267	NM_080400	Chek1	CHK1 checkpoint homolog (S. pombe)
D01	Rn.163213	NM_053677	Chek2	CHK2 checkpoint homolog (S. pombe)
D02	Rn.11183	NM_024134	Ddit3	DNA-damage inducible transcript 3
D03	Rn.79807	NM_001108208	Dst	Dystonin
D04	Rn.72471	NM_001100778	E2f1	E2F transcription factor 1
D05	Rn.73967	NM_001137626	E2f3	E2F transcription factor 3
D06	Rn.154586	XM_226441	E2f4	E2F transcription factor 4
D07	Rn.10250	NM_024127	Gadd45a	Growth arrest and DNA-damage-inducible, alpha
D08	Rn.145095	XM_234574	Gpr132	G protein-coupled receptor 132
D09	Rn.12812	NM_001109092	Hus1	HUS1 checkpoint homolog (S. pombe)

Position	UniGene	GenBank	Symbol	Description
D10	Rn.8831	NM_012590	Inha	Inhibin alpha
D11	Rn.25733	NM_017022	Itgb1	Integrin, beta 1
D12	Rn.154788	XM_346381	LOC367976	Similar to DNA replication licensing factor MCM3 (DNA polymerase alpha holoenzyme-associated protein P1) (P1-MCM3)
E01	Rn.19771	NM_001106594	Mad2l1	MAD2 mitotic arrest deficient-like 1 (yeast)
E02	Rn.2715	NM_001107873	Mcm2	Minichromosome maintenance complex component 2
E03	Rn.8341	NM_033651	Mcm4	Minichromosome maintenance complex component 4
E04	Rn.91829	NM_001108099	Mdm2	Mdm2 p53 binding protein homolog (mouse)
E05	Rn.73551	XM_225460	Mki67	Antigen identified by monoclonal antibody Ki-67
E06	Rn.209040	NM_022279	Mre11a	MRE11 meiotic recombination 11 homolog A (S. cerevisiae)
E07	Rn.3174	NM_031058	Msh2	MutS homolog 2 (E. coli)
E08	Rn.25214	NM_138873	Nbn	Nibrin
E09	Rn.144627	NM_053691	Nek2	NIMA (never in mitosis gene a)-related expressed kinase 2
E10	Rn.65930	NM_024358	Notch2	Notch homolog 2 (Drosophila)
E11	Rn.127770	XM_002724589	Pkd1	Polycystic kidney disease 1 homolog (human)
E12	Rn.1476	NM_017037	Pmp22	Peripheral myelin protein 22
F01	Rn.15540	NM_001105825	Ppm1d	Protein phosphatase 1D magnesium-dependent, delta isoform
F02	Rn.154275	NM_001024778	Rad17	RAD17 homolog (S. pombe)
F03	Rn.3991	NM_001025701	Rad21	RAD21 homolog (S. pombe)
F04	Rn.214052	NM_001109204	Rad51	RAD51 homolog (RecA homolog, E. coli) (S. cerevisiae)
F05	Rn.145016	XM_219684	Rad9	RAD9 homolog (S. pombe)
F06	Rn.107698	NM_053439	Ran	RAN, member RAS oncogene family
F07	Rn.55115	NM_017045	Rb1	Retinoblastoma 1
F08	Rn.208977	XM_001055763	Rbl1	Retinoblastoma-like 1 (p107)
F09	Rn.11020	NM_031094	Rbl2	Retinoblastoma-like 2
F10	N/A	XM_001058445	RGD1560225	Similar to nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 1
F11	Rn.216753	NM_001109358	RGD1566319	Similar to Sestrin 2 (Hi95)
F12	Rn.145079	XM_232745	Sfn	Stratifin
G01	Rn.138818	NM_053517	Shc1	SHC (Src homology 2 domain containing) transforming protein 1
G02	Rn.154278	NM_001106416	Skp2	S-phase kinase-associated protein 2 (p45)
G03	Rn.211782	XM_001068751	Slfn1	Schlafen 1
G04	Rn.11763	NM_031683	Smc1a	Structural maintenance of chromosomes 1A
G05	Rn.11715	NM_001108179	Stag1	Stromal antigen 1
G06	Rn.555	NM_017166	Stmn1	Stathmin 1
G07	Rn.33853	NM_001012464	Terf1	Telomeric repeat binding factor (NIMA-interacting) 1
G08	Rn.105731	NM_001106847	Tfdp2	Transcription factor Dp-2 (E2F dimerization partner 2)
G09	Rn.54443	NM_030989	Tp53	Tumor protein p53
G10	Rn.42907	NM_019221	Tp63	Tumor protein p63
G11	Rn.7410	NM_181628	Tsg101	Tumor susceptibility gene 101
G12	Rn.208255	NM_001012742	Wee1	Wee 1 homolog (S. pombe)
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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