

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

Rat Oncogenes & Tumor Suppressor Genes

Cat. no. 330231 PARN-502ZA

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 Oncogenes & Tumor Suppressor Genes RT² Profiler PCR Array profiles the expression of 84 key genes that promote oncogenesis. The genes represented by this array either have oncogenic or tumor suppressor properties or both depending not only on the tumor type, but also on the known or observed differences in gene expression relative to matched normal tissue. Profiling the expression of these genes in your tumor samples may correlate them with biological phenotypes or clinical outcomes like staging, therapy selection, metastasis, recurrence, and survival rate, among others. The results may also provide insights into the molecular mechanisms and biological pathways behind oncogenesis and cancer pathology, including deregulation of apoptosis, cell cycle, cell adhesion, DNA damage & repair, and signal transduction. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in oncogenesis 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	Akt1	Apc	Atm	Bax	Bcl2	Bcl2l1	Brcal	Brcal	Casp8	Ccnd1	Cdh1
B	Cdk4	Cdkn1a	Cdkn2a	Cdkn2b	Cdkn3	Ctlnb1	E2f1	Egf	Egfr	Elk1	Erb2	Esr1
C	Ets1	Fhit	Fos	Foxd3	Fyn	Hgf	Hic1	Hras	Igf2r	Jak2	Jun	Junb
D	Jund	Kit	Kitlg	Kras	Mcl1	Mdm2	Men1	Met	Mgmt	Mih1	Mos	Myc
E	Mycn	Nf1	Nf2	Nfkb1	Nfkbia	Nras	Pik3c2a	Pik3ca	Prkca	Pten	Raf1	Rara
F	Rassf1	Rb1	Rel	Ret	Ros1	Runx1	Runx3	S100a4	Serpins5	Sh3pxd2a	Smad4	Src
G	Stat3	Stat3	Tgfb1	Tnf	Tp53	Tp73	Tsc1	Vhl	Vhl	Wwax	Xrcc1	Zhx2
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.11422	NM_033230	Akt1	V-akt murine thymoma viral oncogene homolog 1
A03	Rn.88057	NM_012499	Apc	Adenomatous polyposis coli
A04	Rn.214048	NM_001106821	Atm	Ataxia telangiectasia mutated homolog (human)
A05	Rn.10668	NM_017059	Bax	Bcl2-associated X protein
A06	Rn.9996	NM_016993	Bcl2	B-cell CLL/lymphoma 2
A07	Rn.10323	NM_031535	Bcl2l1	Bcl2-like 1
A08	Rn.48840	NM_012514	Brcal	Breast cancer 1
A09	Rn.103225	NM_031542	Brcal	Breast cancer 2
A10	Rn.54474	NM_022277	Casp8	Caspase 8
A11	Rn.22279	NM_171992	Ccnd1	Cyclin D1
A12	Rn.1303	NM_031334	Cdh1	Cadherin 1
B01	Rn.6115	NM_053593	Cdk4	Cyclin-dependent kinase 4
B02	Rn.10089	NM_080782	Cdkn1a	Cyclin-dependent kinase inhibitor 1A
B03	Rn.48717	NM_031550	Cdkn2a	Cyclin-dependent kinase inhibitor 2A
B04	Rn.105626	NM_130812	Cdkn2b	Cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)
B05	Rn.107220	NM_001106028	Cdkn3	Cyclin-dependent kinase inhibitor 3
B06	Rn.112601	NM_053357	Ctlnb1	Catenin (cadherin associated protein), beta 1
B07	Rn.72471	NM_001100778	E2f1	E2F transcription factor 1
B08	Rn.6075	NM_012842	Egf	Epidermal growth factor
B09	Rn.37227	NM_031507	Egfr	Epidermal growth factor receptor
B10	Rn.204602	XM_001055949	Elk1	ELK1, member of ETS oncogene family
B11	Rn.93966	NM_017003	Erb2	V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
B12	Rn.10595	NM_012689	Esr1	Estrogen receptor 1
C01	Rn.88756	NM_012555	Ets1	V-ets erythroblastosis virus E26 oncogene homolog 1 (avian)
C02	Rn.45598	NM_021774	Fhit	Fragile histidine triad gene
C03	Rn.103750	NM_022197	Fos	FBJ osteosarcoma oncogene
C04	Rn.92964	XM_575873	Foxd3	Forkhead box D3
C05	Rn.19361	NM_012755	Fyn	FYN oncogene related to SRC, FGR, YES
C06	Rn.10468	NM_017017	Hgf	Hepatocyte growth factor
C07	Rn.11570	NM_001107021	Hic1	Hypermethylated in cancer 1
C08	Rn.102180	NM_001098241	Hras	Harvey rat sarcoma virus oncogene
C09	Rn.270	NM_012756	Igf2r	Insulin-like growth factor 2 receptor
C10	Rn.18909	NM_031514	Jak2	Janus kinase 2
C11	Rn.93714	NM_021835	Jun	Jun oncogene
C12	Rn.15806	NM_021836	Junb	Jun B proto-oncogene
D01	Rn.46225	NM_138875	Jund	Jun D proto-oncogene
D02	Rn.54004	NM_022264	Kit	V-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog
D03	Rn.44216	NM_021843	Kitlg	KIT ligand
D04	Rn.24554	NM_031515	Kras	V-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog
D05	Rn.129914	NM_021846	Mcl1	Myeloid cell leukemia sequence 1
D06	Rn.91829	NM_001108099	Mdm2	Mdm2 p53 binding protein homolog (mouse)
D07	Rn.6775	NM_019208	Men1	Multiple endocrine neoplasia 1
D08	Rn.10617	NM_031517	Met	Met proto-oncogene

Position	UniGene	GenBank	Symbol	Description
D09	Rn.9836	NM_012861	Mgmt	O-6-methylguanine-DNA methyltransferase
D10	Rn.20391	NM_031053	Mlh1	MutL homolog 1 (E. coli)
D11	Rn.10341	NM_020102	Mos	Moloney sarcoma oncogene
D12	Rn.12072	NM_012603	Myc	Myelocytomatosis oncogene
E01	Rn.81116	NM_001013096	Mycn	V-myc myelocytomatosis viral related oncogene, neuroblastoma derived (avian)
E02	Rn.10686	NM_012609	Nf1	Neurofibromin 1
E03	Rn.46695	NM_013193	Nf2	Neurofibromin 2 (merlin)
E04	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E05	Rn.12550	NM_001105720	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E06	Rn.217722	NM_080766	Nras	Neuroblastoma ras oncogene
E07	Rn.60820	NM_001108500	Pik3c2a	Phosphoinositide-3-kinase, class 2, alpha polypeptide
E08	Rn.44193	NM_133399	Pik3ca	Phosphoinositide-3-kinase, catalytic, alpha polypeptide
E09	Rn.207908	NM_001105713	Prkca	Protein kinase C, alpha
E10	Rn.22158	NM_031606	Pten	Phosphatase and tensin homolog
E11	Rn.33262	NM_012639	Raf1	V-raf-leukemia viral oncogene 1
E12	Rn.91057	NM_031528	Rara	Retinoic acid receptor, alpha
F01	Rn.83042	NM_001007754	Rassf1	Ras association (RalGDS/AF-6) domain family member 1
F02	Rn.55115	NM_017045	Rb1	Retinoblastoma 1
F03	Rn.106948	XM_223688	Rel	V-rel reticuloendotheliosis viral oncogene homolog (avian)
F04	Rn.93200	NM_012643	Ret	Ret proto-oncogene
F05	Rn.87436	NM_012874	Ros1	C-ros oncogene 1, receptor tyrosine kinase
F06	Rn.11201	NM_017325	Runx1	Runt-related transcription factor 1
F07	Rn.205217	NM_130425	Runx3	Runt-related transcription factor 3
F08	Rn.504	NM_012618	S100a4	S100 calcium-binding protein A4
F09	Rn.25752	NM_057108	Serpnb5	Serpin peptidase inhibitor, clade B (ovalbumin), member 5
F10	Rn.127935	NM_001107606	Sh3pxd2a	SH3 and PX domains 2A
F11	Rn.9774	NM_019275	Smad4	SMAD family member 4
F12	Rn.112600	NM_031977	Src	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)
G01	Rn.10247	NM_012747	Stat3	Signal transducer and activator of transcription 3
G02	Rn.12052	NM_001108069	Stk11	Serine/threonine kinase 11
G03	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G04	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G05	Rn.54443	NM_030989	Tp53	Tumor protein p53
G06	Rn.103860	NM_001108696	Tp73	Tumor protein p73
G07	Rn.205837	NM_021854	Tsc1	Tuberous sclerosis 1
G08	Rn.11059	NM_052801	Vhl	Von Hippel-Lindau tumor suppressor
G09	Rn.92531	NM_031534	Wt1	Wilms tumor 1
G10	Rn.158117	NM_001106188	Wwox	WW domain-containing oxidoreductase
G11	Rn.13754	NM_053435	Xrcc1	X-ray repair complementing defective repair in Chinese hamster cells 1
G12	Rn.25386	XM_235318	Zhx2	Zinc fingers and homeoboxes 2
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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