

# RT<sup>2</sup> Profiler PCR Array (Rotor-Gene<sup>®</sup> Format)

## Rat Liver Cancer

**Cat. no. 330231 PARN-133ZR**

### For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array,	Rotor-Gene Q, other Rotor-Gene cyclers
Format R	

### Description

The Rat Liver Cancer RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes involved in the progression of hepatocellular carcinoma (HCC), as well as other forms of hepatocarcinogenesis. HCC is a common form of liver cancer with a poor prognosis and low survival rate, and its incidence is on the rise. Underlying liver diseases or infections are potential oncogenic mechanisms involving chronic immune and inflammatory responses. However, the link between disease or infection and carcinogenesis is currently nebulous and a focus of intensive research. Microarray studies have identified many dysregulated genes, and many are important for cellular signaling and other normal biological processes. Research directed at these genes may yield insights into the molecular mechanisms behind hepatic oncogenesis. This array includes genes commonly up- and down-regulated in HCC, genes involved in commonly altered signal transduction pathways, and genes involved in other dysregulated biological pathways such as epithelial to mesenchymal transition, cell cycle, apoptosis, and inflammation. Using realtime PCR, your research study can easily and reliably analyze the expression of a focused panel of genes involved in HCC initiation with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

### Shipping and storage

RT<sup>2</sup> 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 RT<sup>2</sup> Profiler PCR Array format for your real-time

cycler (see table above).

**Note:** Open the package and store the products appropriately immediately on receipt.



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## 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: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.144585	NM_020306	Adam17	ADAM metallopeptidase domain 17
A02	Rn.11422	NM_033230	Akt1	V-akt murine thymoma viral oncogene homolog 1
A03	Rn.138360	NM_134454	Angpt2	Angiopoietin 2
A04	Rn.10668	NM_017059	Bax	Bcl2-associated X protein
A05	Rn.9996	NM_016993	Bcl2	B-cell CLL/lymphoma 2
A06	Rn.10323	NM_031535	Bcl2l1	Bcl2-like 1
A07	Rn.31142	NM_022684	Bid	BH3 interacting domain death agonist
A08	Rn.205955	NM_021752	Birc2	Baculoviral IAP repeat-containing 2
A09	Rn.54471	NM_022274	Birc5	Baculoviral IAP repeat-containing 5
A10	Rn.54474	NM_022277	Casp8	Caspase 8
A11	Rn.8019	NM_031116	Cd5	Chemokine (C-C motif) ligand 5
A12	Rn.22279	NM_171992	Ccnd1	Cyclin D1
B01	Rn.96083	NM_022267	Ccnd2	Cyclin D2
B02	Rn.1303	NM_031334	Cdh1	Cadherin 1
B03	Rn.23806	NM_138889	Cdh13	Cadherin 13
B04	Rn.10089	NM_080782	Cdkn1a	Cyclin-dependent kinase inhibitor 1A
B05	Rn.29897	NM_031762	Cdkn1b	Cyclin-dependent kinase inhibitor 1B
B06	Rn.48717	NM_031550	Cdkn2a	Cyclin-dependent kinase inhibitor 2A
B07	Rn.204752	NM_057138	Cflar	CASP8 and FADD-like apoptosis regulator
B08	Rn.112601	NM_053357	Ctnnb1	Catenin (cadherin associated protein), beta 1
B09	Rn.44431	NM_022205	Cxcr4	Chemokine (C-X-C motif) receptor 4
B10	Rn.14323	NM_138710	Dab2ip	DAB2 interacting protein
B11	Rn.7255	NM_001127446	Dlc1	Deleted in liver cancer 1
B12	Rn.72471	NM_001100778	E2f1	E2F transcription factor 1
C01	Rn.6075	NM_012842	Egf	Epidermal growth factor
C02	Rn.37227	NM_031507	Egfr	Epidermal growth factor receptor
C03	Rn.12447	XM_576312	Ep300	E1A binding protein p300
C04	Rn.16183	NM_152937	Fadd	Fas (TNFRSF6)-associated via death domain
C05	Rn.162521	NM_139194	Fas	Fas (TNF receptor superfamily, member 6)
C06	Rn.45598	NM_021774	Fhit	Fragile histidine triad gene
C07	Rn.10239	NM_019306	Flt1	Fms-related tyrosine kinase 1
C08	Rn.1806	XM_237191	Fzd7	Frizzled homolog 7 (Drosophila)
C09	Rn.35886	NM_001008321	Gadd45b	Growth arrest and DNA-damage-inducible, beta
C10	Rn.87063	NM_012577	Gstp1	Glutathione S-transferase pi 1
C11	Rn.10468	NM_017017	Hgf	Hepatocyte growth factor
C12	Rn.204425	XM_238042	Hhip	Hedgehog-interacting protein
D01	Rn.102180	NM_001098241	Hras	Harvey rat sarcoma virus oncogene
D02	Rn.118681	NM_031511	Igf2	Insulin-like growth factor 2
D03	Rn.34026	NM_013144	Igfbp1	Insulin-like growth factor binding protein 1
D04	Rn.26369	NM_012588	Igfbp3	Insulin-like growth factor binding protein 3
D05	Rn.10476	NM_012969	Irs1	Insulin receptor substrate 1
D06	Rn.25733	NM_017022	Itgb1	Integrin, beta 1
D07	Rn.88869	NM_013062	Kdr	Kinase insert domain receptor
D08	Rn.21926	NM_130429	Lef1	Lymphoid enhancer binding factor 1
D09	Rn.129914	NM_021846	Mcl1	Myeloid cell leukemia sequence 1
D10	Rn.10617	NM_031517	Met	Met proto-oncogene
D11	Rn.3174	NM_031058	Msh2	MutS homolog 2 (E. coli)
D12	Rn.162551	XM_001065837	Msh3	MutS homolog 3 (E. coli)
E01	Rn.6864	NM_133398	Mtdh	Metadherin
E02	Rn.12072	NM_012603	Myc	Myelocytomatosis oncogene
E03	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E04	Rn.217722	NM_080766	Nras	Neuroblastoma ras oncogene
E05	Rn.11366	NM_053848	Opcml	Opioid binding protein/cell adhesion molecule-like
E06	Rn.55127	NM_012802	Pdgfra	Platelet derived growth factor receptor, alpha polypeptide
E07	Rn.6291	NM_001106701	Pin1	Peptidylprolyl cis/trans isomerase, NIMA-interacting 1
E08	Rn.22158	NM_031606	Pten	Phosphatase and tensin homolog
E09	Rn.44369	NM_017232	Ptg52	Prostaglandin-endoperoxide synthase 2

Position	UniGene	GenBank	Symbol	Description
E10	Rn.2809	NM_013081	Ptk2	PTK2 protein tyrosine kinase 2
E11	Rn.7817	NM_172322	Pycard	PYD and CARD domain containing
E12	Rn.29157	NM_134366	Rac1	Ras-related C3 botulinum toxin substrate 1
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.98353	NM_080394	Reelin	Reelin
F04	Rn.107401	NM_057132	Rhoa	Ras homolog gene family, member A
F05	Rn.205217	NM_130425	Runx3	Runt-related transcription factor 3
F06	Rn.102416	NM_001100700	Sfrp2	Secreted frizzled-related protein 2
F07	Rn.9774	NM_019275	Smad4	SMAD family member 4
F08	Rn.29980	NM_030858	Smad7	SMAD family member 7
F09	Rn.82754	NM_145879	Socs1	Suppressor of cytokine signaling 1
F10	Rn.127801	NM_053565	Socs3	Suppressor of cytokine signaling 3
F11	Rn.10247	NM_012747	Stat3	Signal transducer and activator of transcription 3
F12	Rn.23354	NM_053369	Tcf4	Transcription factor 4
G01	Rn.48802	NM_053423	Tert	Telomerase reverse transcriptase
G02	Rn.9952	NM_012671	Tgfa	Transforming growth factor alpha
G03	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G04	Rn.9954	NM_031132	Tgfb2	Transforming growth factor, beta receptor II
G05	Rn.14534	NM_019178	Tlr4	Toll-like receptor 4
G06	Rn.105558	NM_001108873	Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b
G07	Rn.83627	NM_145681	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
G08	Rn.54443	NM_030989	Tp53	Tumor protein p53
G09	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
G10	Rn.92531	NM_031534	Wt1	Wilms tumor 1
G11	Rn.91239	NM_022231	Xiap	X-linked inhibitor of apoptosis
G12	Rn.162978	NM_001034002	Yap1	Yes-associated protein 1
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, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> SYBR Green ROX <sup>™</sup> 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.

RT<sup>2</sup> 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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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