RT² Profiler PCR Array (Rotor-Gene® Format)

Human Liver Cancer

Cat. no. 330231 PAHS-133ZR

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 Human Liver Cancer RT² 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 *RT² Profiler PCR Array Handbook*.

Shipping and storage

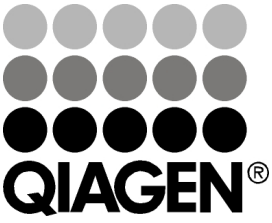
RT² Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

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	Hs.404914	NM_003183	ADAM17	ADAM metallopeptidase domain 17
A02	Hs.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A03	Hs.583870	NM_001147	ANGPT2	Angiopoietin 2
A04	Hs.624291	NM_004324	BAX	BCL2-associated X protein
A05	Hs.150749	NM_000633	BCL2	B-cell CLL/lymphoma 2
A06	Hs.516966	NM_138578	BCL2L1	BCL2-like 1
A07	Hs.591054	NM_001196	BID	BH3 interacting domain death agonist
A08	Hs.696238	NM_001166	BIRC2	Baculoviral IAP repeat containing 2
A09	Hs.728893	NM_001168	BIRC5	Baculoviral IAP repeat containing 5
A10	Hs.599762	NM_001228	CASP8	Caspase 8, apoptosis-related cysteine peptidase
A11	Hs.514821	NM_002985	CCL5	Chemokine (C-C motif) ligand 5
A12	Hs.523852	NM_053056	CCND1	Cyclin D1
B01	Hs.376071	NM_001759	CCND2	Cyclin D2
B02	Hs.461086	NM_004360	CDH1	Cadherin 1, type 1, E-cadherin (epithelial)
B03	Hs.654386	NM_001257	CDH13	Cadherin 13, H-cadherin (heart)
B04	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
B05	Hs.238990	NM_004064	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)
B06	Hs.512599	NM_000077	CDKN2A	Cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)
B07	Hs.390736	NM_003879	CFLAR	CASP8 and FADD-like apoptosis regulator
B08	Hs.476018	NM_001904	CTNNB1	Catenin (cadherin-associated protein), beta 1, 88kDa
B09	Hs.593413	NM_003467	CXCR4	Chemokine (C-X-C motif) receptor 4
B10	Hs.522378	NM_138709	DAB2IP	DAB2 interacting protein
B11	Hs.134296	NM_006094	DLC1	Deleted in liver cancer 1
B12	Hs.654393	NM_005225	E2F1	E2F transcription factor 1
C01	Hs.419815	NM_001963	EGF	Epidermal growth factor
C02	Hs.488293	NM_005228	EGFR	Epidermal growth factor receptor
C03	Hs.517517	NM_001429	EP300	E1A binding protein p300
C04	Hs.86131	NM_003824	FADD	Fas (TNFRSF6)-associated via death domain
C05	Hs.244139	NM_000043	FAS	Fas (TNF receptor superfamily, member 6)
C06	Hs.715588	NM_002012	FHIT	Fragile histidine triad gene
C07	Hs.654360	NM_002019	FLT1	Fms-related tyrosine kinase 1 (vascular endothelial growth factor/vascular permeability factor receptor)
C08	Hs.173859	NM_003507	FZD7	Frizzled family receptor 7
C09	Hs.110571	NM_015675	GADD45B	Growth arrest and DNA-damage-inducible, beta
C10	Hs.523836	NM_000852	GSTP1	Glutathione S-transferase pi 1
C11	Hs.396530	NM_000601	HGF	Hepatocyte growth factor (hepapoietin A; scatter factor)
C12	Hs.507991	NM_022475	HHIP	Hedgehog interacting protein
D01	Hs.37003	NM_005343	HRAS	V-Ha-ras Harvey rat sarcoma viral oncogene homolog
D02	Hs.523414	NM_000612	IGF2	Insulin-like growth factor 2 (somatomedin A)
D03	Hs.642938	NM_000596	IGFBP1	Insulin-like growth factor binding protein 1
D04	Hs.450230	NM_000598	IGFBP3	Insulin-like growth factor binding protein 3
D05	Hs.471508	NM_005544	IRS1	Insulin receptor substrate 1
D06	Hs.643813	NM_002211	ITGB1	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)
D07	Hs.479756	NM_002253	KDR	Kinase insert domain receptor (a type III receptor tyrosine kinase)
D08	Hs.555947	NM_016269	LEF1	Lymphoid enhancer-binding factor 1
D09	Hs.632486	NM_021960	MCL1	Myeloid cell leukemia sequence 1 (BCL2-related)
D10	Hs.132966	NM_000245	MET	Met proto-oncogene (hepatocyte growth factor receptor)
D11	Hs.597656	NM_000251	MSH2	MutS homolog 2, colon cancer, nonpolyposis type 1 (E. coli)
D12	Hs.280987	NM_002439	MSH3	MutS homolog 3 (E. coli)
E01	Hs.377155	NM_178812	MTDH	Metadherin
E02	Hs.202453	NM_002467	MYC	V-myc myelocytomatosis viral oncogene homolog (avian)
E03	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E04	Hs.486502	NM_002524	NRAS	Neuroblastoma RAS viral (v-ras) oncogene homolog
E05	Hs.4817	NM_002545	OPCML	Opioid binding protein/cell adhesion molecule-like
E06	Hs.74615	NM_006206	PDGFRA	Platelet-derived growth factor receptor, alpha polypeptide
E07	Hs.465849	NM_006221	PIN1	Peptidylprolyl cis/trans isomerase, NIMA-interacting 1

Position	UniGene	GenBank	Symbol	Description
E08	Hs.500466	NM_000314	PTEN	Phosphatase and tensin homolog
E09	Hs.196384	NM_000963	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
E10	Hs.395482	NM_005607	PTK2	PTK2 protein tyrosine kinase 2
E11	Hs.499094	NM_013258	PYCARD	PYD and CARD domain containing
E12	Hs.413812	NM_006908	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
F01	Hs.476270	NM_007182	RASSF1	Ras association (RalGDS/AF-6) domain family member 1
F02	Hs.408528	NM_000321	RB1	Retinoblastoma 1
F03	Hs.655654	NM_005045	RELN	Reelin
F04	Hs.247077	NM_001664	RHOA	Ras homolog gene family, member A
F05	Hs.170019	NM_004350	RUNX3	Runt-related transcription factor 3
F06	Hs.481022	NM_003013	SFRP2	Secreted frizzled-related protein 2
F07	Hs.75862	NM_005359	SMAD4	SMAD family member 4
F08	Hs.465087	NM_005904	SMAD7	SMAD family member 7
F09	Hs.50640	NM_003745	SOCS1	Suppressor of cytokine signaling 1
F10	Hs.527973	NM_003955	SOCS3	Suppressor of cytokine signaling 3
F11	Hs.463059	NM_003150	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)
F12	Hs.644653	NM_003199	TCF4	Transcription factor 4
G01	Hs.492203	NM_198253	TERT	Telomerase reverse transcriptase
G02	Hs.170009	NM_003236	TGFA	Transforming growth factor, alpha
G03	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
G04	Hs.604277	NM_003242	TGFBR2	Transforming growth factor, beta receptor II (70/80kDa)
G05	Hs.174312	NM_138554	TLR4	Toll-like receptor 4
G06	Hs.521456	NM_003842	TNFRSF10B	Tumor necrosis factor receptor superfamily, member 10b
G07	Hs.478275	NM_003810	TNFSF10	Tumor necrosis factor (ligand) superfamily, member 10
G08	Hs.654481	NM_000546	TP53	Tumor protein p53
G09	Hs.73793	NM_003376	VEGFA	Vascular endothelial growth factor A
G10	Hs.591980	NM_000378	WT1	Wilms tumor 1
G11	Hs.356076	NM_001167	XIAP	X-linked inhibitor of apoptosis
G12	Hs.503692	NM_006106	YAP1	Yes-associated protein 1
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human 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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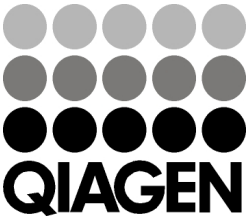

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