

ExProfile™ Human Liver Cancer Gene qPCR Array

For focused group profiling of human liver cancer related genes expression

Cat. No. QG072-A (2 x 96-well plate, Format A)

Cat. No. QG072-B (2 x 96-well plate, Format B)

Cat. No. QG072-C (2 x 96-well plate, Format C)

Cat. No. QG072-D (2 x 96-well plate, Format D)

Cat. No. QG072-E (2 x 96-well plate, Format E)

Available as 1 set or 6 sets. Each set contains 168 unique gene primers deposited in two 96-well plates.

Introduction

The ExProfile human liver cancer gene qPCR array profiles 168 human genes to aberrantly expressed human genes involved in human liver cancer. These genes are carefully chosen for their close cancer correlation based on a thorough literature search of peer-reviewed publications. Abnormal gene expression is often observed in cancer development and progression. The ExProfile human liver cancer gene array allows researchers to study the cancer-related genes to gain understanding of their roles of genes in liver cancer pathogenesis.

- QG072 plate 01: 84 unique gene PCR primer pairs
- QG072 plate 02: 84 unique gene PCR primer pairs

Shipping and storage condition

Shipped at room temperature

Stable for at least 6 months when stored at -20°C

Array format

GeneCopoeia provides five qPCR array formats (A, B, C, D, and E) suitable for use with the following real-time cyclers.

Important note: Upon receiving, please check to make sure that the correct array format was ordered to ensure the compatibility with your qPCR instrument.

Plate format	Instrument provider	qPCR instrument model
A (96-well)	Applied Biosystems	5700, 7000, 7300, 7500, 7700, 7900HT (Standard 96-well block), ViiA™7 (Standard 96-well block)
B (96-well)	Applied Biosystems	7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA™7 (Fast block)
C (96-well)	Bio-Rad Laboratories	iCycler iQ®, MyiQ™, iQ™5
D (96-well)	Bio-Rad Laboratories	CFX96™, DNA Engine Opticon™, DNA Engine Opticon 2™, Chromo4™
E (96-well)	Roche Applied Science	LightCycler® 480 (96-well block)

Quality control

1. Each pair of primers in the ExProfile gene qPCR array has been experimentally validated to yield a single dissociation curve peak and to generate a single amplicon of the correct size for the targeted gene.
2. The positive PCR controls (PCRs) have been verified to amplify a single amplicon of the correct size with Ct values around **20±2**.
3. The Spike-in reverse transcription controls (RT) have been verified to amplify a single amplicon of the correct size with Ct values around **20±3**.
4. $R^2 > 0.99$ was observed for high inter/ intra-array reproducibility.

Materials required but not provided

All-in-One™ First-Strand cDNA Synthesis Kit
 All-in-One™ qPCR Mix
 Total RNA extraction kit (RNAzol® RT RNA extraction reagent is recommended)
 DNase/RNase free tips, PCR reaction tubes, 1.5 ml microcentrifuge tubes
 5 ml and 10 ml graduated pipettes, beakers, flasks, and cylinders
 10 µl to 1,000 µl adjustable single channel micropipettes with disposable tips
 5 µl to 20 µl adjustable multichannel micropipette, disposable tips, and reservoir
 qPCR instrument, compatible with gene qPCR arrays ordered

Array layout

	1	2	3	4	5	6	7	8	9	10	11	12
A	TP53	TNF	HFE	MTHFR	IL10	IL1B	NAT2	XRCC1	TGFB1	UGT1A7	CYP2E1	CYP1A1
B	HLA-DRB1	IL6	MMP9	MDM2	IL18	ALDH2	EPHX1	EGF	NAT1	XPC	SOD2	CXCL12
C	CCND1	MMP3	MMP1	AR	IL12A	IL1RN	EGFR	COMT	UGT1A9	CDC6	CXCR4	VEGFA
D	TYMS	NFKBIA	NFKB1	MPO	MMP2	KRAS	IL4	IGF1	IFNAR1	GSTM3	ERCC2	CYP17A1
E	CYP2D6	CYP2C19	CYP1B1	CTLA4	CCR5	OGG1	ERCC5	DNMT3B	NQO1	RRM1	KLF6	UGT2B15
F	CDH1	EPM2AIP1	TSC22D2	CD81	HDAC9	CD48	GSTO1	CD80	GRAP2	TPTE2	EDG4	USP14
G	PAPSS1	TAF1C	CCND2	BTRC	HDAC3	PLA2G12B	HDAC10	MAD1L1	CCDC6	CALCR	DDR1	XRCC3
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG072 plate 01

	1	2	3	4	5	6	7	8	9	10	11	12
A	VDR	UGT2B7	C4BPB	TRIO	TRAF6	TM7SF2	TGFB11	TERF2	TERF1	STAT3	STAT1	BRAF
B	SREBF2	AKR1D1	SPARC	SP100	SLIT3	SMYD3	SDHC	CCL5	CCL2	ACSM3	RLF	RFC2
C	BCL2	RB1	RAD52	PTGS2	PTCH1	PSMB9	PROS1	PRKG2	BTG4	UGT1A3	UGT1A4	UGT1A6
D	UGT1A10	PON3	POLRMT	PODXL	PLG	PLOG2	PKLR	SERPINA1	ABCB1	PGD	SERPINB2	SERPINE1
E	NOS2A	NFKB2	MYC	MX1	MTRR	MT1X	MSH2	ABCC1	MMP12	MMP8	MLH1	CIITA
F	LTBP2	LIPC	KIT	KIR3DL1	KIR2DS3	KIR2DL4	KIR2DL3	KIR2DL1	KDR	KCNJ3	JAK1	ITGAV
G	ITGA9	INS	CXCL10	IMPA1	IL12RB1	IL8	FASLG	IL2RB	IL2	IL1A	IGFBP6	IGFBP3
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure2. Illustration of QG072 plate 02

- **Gene primer pairs:** 84 wells (A row to G row) are designated for a real-time PCR assay for genes (see the primer list).
- **HK1-6:** Six pre-deposited housekeeping gene (HK1-6) primer pairs, which can be used as endogenous positive controls as well as for array normalization.
- **GDC:** Genomic DNA controls, which can be used to specifically detect genomic DNA contamination with a high level of sensitivity.

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- **RT:** Spike-in reverse transcription controls, which can be used to monitor the efficiency of the RT reactions. These pre-deposited primer pairs specifically amplify the cDNA template reversed transcribed from the spike-in control RNA in the sample.
- **PCR:** Positive PCR controls, which are used to verify the PCR efficiency by amplifying the pre-deposited DNA template with its specific pre-deposited primer pairs.

Gene primer list

Plate	Position	Catalog No. of Primer	Accession No. of Gene	Symbol
QG072-01	A01	HQP018175	NM_000546	TP53
QG072-01	A02	HQP018141	NM_000594	TNF
QG072-01	A03	HQP008757	NM_000410	HFE
QG072-01	A04	HQP011547	NM_005957	MTHFR
QG072-01	A05	HQP009685	NM_000572	IL10
QG072-01	A06	HQP009641	NM_000576	IL1B
QG072-01	A07	HQP001136	NM_000015	NAT2
QG072-01	A08	HQP018562	NM_006297	XRCC1
QG072-01	A09	HQP018044	NM_000660	TGFB1
QG072-01	A10	HQP013581	NM_019077	UGT1A7
QG072-01	A11	HQP003817	NM_000773	CYP2E1
QG072-01	A12	HQP003772	NM_000499	CYP1A1
QG072-01	B01	HQP054047	BC008403	HLA-DRB1
QG072-01	B02	HQP009670	NM_000600	IL6
QG072-01	B03	HQP011263	NM_004994	MMP9
QG072-01	B04	HQP011135	NM_002392	MDM2
QG072-01	B05	HQP009718	NM_001562	IL18
QG072-01	B06	HQP005087	NM_000690	ALDH2
QG072-01	B07	HQP004948	NM_000120	EPHX1
QG072-01	B08	HQP004599	NM_001963	EGF
QG072-01	B09	HQP023467	NM_000662	NAT1
QG072-01	B10	HQP018556	NM_004628	XPC
QG072-01	B11	HQP017616	NM_000636	SOD2
QG072-01	B12	HQP016670	NM_001033886	CXCL12
QG072-01	C01	HQP016204	NM_053056	CCND1
QG072-01	C02	HQP011257	NM_002422	MMP3
QG072-01	C03	HQP011255	NM_002421	MMP1
QG072-01	C04	HQP009801	NM_000044	AR
QG072-01	C05	HQP009692	NM_000882	IL12A
QG072-01	C06	HQP009645	NM_000577	IL1RN
QG072-01	C07	HQP004605	NM_005228	EGFR
QG072-01	C08	HQP002671	NM_000754	COMT
QG072-01	C09	HQP013597	NM_021027	UGT1A9
QG072-01	C10	HQP023354	NM_001254	CDC6
QG072-01	C11	HQP018802	NM_001008540	CXCR4
QG072-01	C12	HQP018475	NM_001025366	VEGFA
QG072-01	D01	HQP018342	NM_001071	TYMS

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QG072-01	D02	HQP011810	NM_020529	NFKBIA
QG072-01	D03	HQP011807	NM_003998	NFKB1
QG072-01	D04	HQP011309	NM_000250	MPO
QG072-01	D05	HQP011256	NM_004530	MMP2
QG072-01	D06	HQP010133	NM_004985	KRAS
QG072-01	D07	HQP009662	NM_000589	IL4
QG072-01	D08	HQP009518	NM_000618	IGF1
QG072-01	D09	HQP009458	NM_000629	IFNAR1
QG072-01	D10	HQP008483	NM_000849	GSTM3
QG072-01	D11	HQP004976	NM_000400	ERCC2
QG072-01	D12	HQP003888	NM_000102	CYP17A1
QG072-01	E01	HQP003814	NM_000106	CYP2D6
QG072-01	E02	HQP003809	NM_000769	CYP2C19
QG072-01	E03	HQP003775	NM_000104	CYP1B1
QG072-01	E04	HQP003499	NM_001037631	CTLA4
QG072-01	E05	HQP002210	NM_000579	CCR5
QG072-01	E06	HQP012021	NM_002542	OGG1
QG072-01	E07	HQP004985	NM_000123	ERCC5
QG072-01	E08	HQP004414	NM_006892	DNMT3B
QG072-01	E09	HQP004317	NM_000903	NQO1
QG072-01	E10	HQP054684	NM_001033	RRM1
QG072-01	E11	HQP053978	NM_001300	KLF6
QG072-01	E12	HQP053916	NM_001076	UGT2B15
QG072-01	F01	HQP023466	NM_004360	CDH1
QG072-01	F02	HQP023284	NM_014805	EPM2AIP1
QG072-01	F03	HQP023237	NM_014779	TSC22D2
QG072-01	F04	HQP023168	NM_004356	CD81
QG072-01	F05	HQP023134	NM_014707	HDAC9
QG072-01	F06	HQP023005	NM_001778	CD48
QG072-01	F07	HQP022764	NM_004832	GSTO1
QG072-01	F08	HQP022722	NM_005191	CD80
QG072-01	F09	HQP022680	NM_004810	GRAP2
QG072-01	F10	HQP022575	NM_130785	TPTE2
QG072-01	F11	HQP022238	NM_004720	EDG4
QG072-01	F12	HQP022063	NM_001037334	USP14
QG072-01	G01	HQP021995	NM_005443	PAPSS1
QG072-01	G02	HQP021865	NM_005679	TAF1C
QG072-01	G03	HQP021754	NM_001759	CCND2
QG072-01	G04	HQP021752	NM_003939	BTRC
QG072-01	G05	HQP021612	NM_003883	HDAC3
QG072-01	G06	HQP020843	NM_032562	PLA2G12B
QG072-01	G07	HQP020394	NM_032019	HDAC10
QG072-01	G08	HQP020331	NM_001013836	MAD1L1
QG072-01	G09	HQP019650	NM_005436	CCDC6
QG072-01	G10	HQP019452	NM_001742	CALCR
QG072-01	G11	HQP018768	NM_001954	DDR1
QG072-01	G12	HQP018564	NM_005432	XRCC3

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QG072-01	H01	HGDC		
QG072-01	H02	HGDC		
QG072-01	H03	HQP006940	NM_002046	GAPDH
QG072-01	H04	HQP016381	NM_001101	ACTB
QG072-01	H05	HQP015171	NM_004048	B2M
QG072-01	H06	HQP006171	NM_012423	RPL13A
QG072-01	H07	HQP009026	NM_000194	HPRT1
QG072-01	H08	HQP054253	NR_003286	RN18S1
QG072-01	H09	RT		
QG072-01	H10	RT		
QG072-01	H11	PCR		
QG072-01	H12	PCR		
QG072-02	A01	HQP018474	NM_000376	VDR
QG072-02	A02	HQP018418	NM_001074	UGT2B7
QG072-02	A03	HQP018276	NM_000716	C4BPB
QG072-02	A04	HQP018246	NM_007118	TRIO
QG072-02	A05	HQP018237	NM_004620	TRAF6
QG072-02	A06	HQP018127	NM_003273	TM7SF2
QG072-02	A07	HQP018045	NM_001042454	TGFB111
QG072-02	A08	HQP018016	NM_005652	TERF2
QG072-02	A09	HQP018014	NM_003218	TERF1
QG072-02	A10	HQP017767	NM_003150	STAT3
QG072-02	A11	HQP017764	NM_007315	STAT1
QG072-02	A12	HQP017733	NM_004333	BRAF
QG072-02	B01	HQP017705	NM_004599	SREBF2
QG072-02	B02	HQP017701	NM_005989	AKR1D1
QG072-02	B03	HQP017653	NM_003118	SPARC
QG072-02	B04	HQP017647	NM_003113	SP100
QG072-02	B05	HQP017498	NM_003062	SLIT3
QG072-02	B06	HQP017124	NM_022743	SMYD3
QG072-02	B07	HQP016694	NM_001035511	SDHC
QG072-02	B08	HQP016626	NM_002985	CCL5
QG072-02	B09	HQP016621	NM_002982	CCL2
QG072-02	B10	HQP016561	NM_005622	ACSM3
QG072-02	B11	HQP016284	NM_012421	RLF
QG072-02	B12	HQP016225	NM_002914	RFC2
QG072-02	C01	HQP016212	NM_000657	BCL2
QG072-02	C02	HQP016131	NM_000321	RB1
QG072-02	C03	HQP016087	NM_134424	RAD52
QG072-02	C04	HQP015598	NM_000963	PTGS2
QG072-02	C05	HQP015530	NM_000264	PTCH1
QG072-02	C06	HQP015311	NM_002800	PSMB9
QG072-02	C07	HQP015059	NM_000313	PROS1
QG072-02	C08	HQP014847	NM_006259	PRKG2
QG072-02	C09	HQP013682	NM_017589	BTG4
QG072-02	C10	HQP013616	NM_019093	UGT1A3
QG072-02	C11	HQP013614	NM_007120	UGT1A4

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QG072-02	C12	HQP013583	NM_205862	UGT1A6
QG072-02	D01	HQP013579	NM_019075	UGT1A10
QG072-02	D02	HQP013493	NM_000940	PON3
QG072-02	D03	HQP013459	NM_005035	POLRMT
QG072-02	D04	HQP013416	NM_001018111	PODXL
QG072-02	D05	HQP013257	NM_000301	PLG
QG072-02	D06	HQP013240	NM_002661	PLCG2
QG072-02	D07	HQP013181	NM_000298	PKLR
QG072-02	D08	HQP013122	NM_000295	SERPINA1
QG072-02	D09	HQP013100	NM_000927	ABCB1
QG072-02	D10	HQP013088	NM_002631	PGD
QG072-02	D11	HQP012155	NM_002575	SERPINB2
QG072-02	D12	HQP012154	NM_000602	SERPINE1
QG072-02	E01	HQP011866	NM_000625	NOS2A
QG072-02	E02	HQP011808	NM_001077493	NFKB2
QG072-02	E03	HQP011597	NM_002467	MYC
QG072-02	E04	HQP011582	NM_002462	MX1
QG072-02	E05	HQP011555	NM_002454	MTRR
QG072-02	E06	HQP011537	NM_005952	MT1X
QG072-02	E07	HQP011491	NM_000251	MSH2
QG072-02	E08	HQP011325	NM_019899	ABCC1
QG072-02	E09	HQP011266	NM_002426	MMP12
QG072-02	E10	HQP011262	NM_002424	MMP8
QG072-02	E11	HQP011235	NM_000249	MLH1
QG072-02	E12	HQP011211	NM_000246	CIITA
QG072-02	F01	HQP010913	NM_000428	LTBP2
QG072-02	F02	HQP010626	NM_000236	LIPC
QG072-02	F03	HQP010099	NM_000222	KIT
QG072-02	F04	HQP010095	NM_013289	KIR3DL1
QG072-02	F05	HQP010092	NM_012313	KIR2DS3
QG072-02	F06	HQP010089	NM_002255	KIR2DL4
QG072-02	F07	HQP010086	NM_015868	KIR2DL3
QG072-02	F08	HQP010083	NM_014218	KIR2DL1
QG072-02	F09	HQP010070	NM_002253	KDR
QG072-02	F10	HQP010005	NM_002239	KCNJ3
QG072-02	F11	HQP009849	NM_002227	JAK1
QG072-02	F12	HQP009808	NM_002210	ITGAV
QG072-02	G01	HQP009803	NM_002207	ITGA9
QG072-02	G02	HQP009749	NM_000207	INS
QG072-02	G03	HQP009746	NM_001565	CXCL10
QG072-02	G04	HQP009726	NM_005536	IMPA1
QG072-02	G05	HQP009694	NM_005535	IL12RB1
QG072-02	G06	HQP009678	NM_000584	IL8
QG072-02	G07	HQP009671	NM_000639	FASLG
QG072-02	G08	HQP009658	NM_000878	IL2RB
QG072-02	G09	HQP009649	NM_000586	IL2
QG072-02	G10	HQP009640	NM_000575	IL1A

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QG072-02	G11	HQP009555	NM_002178	IGFBP6
QG072-02	G12	HQP009544	NM_000598	IGFBP3
QG072-02	H01	HGDC		
QG072-02	H02	HGDC		
QG072-02	H03	HQP006940	NM_002046	GAPDH
QG072-02	H04	HQP016381	NM_001101	ACTB
QG072-02	H05	HQP015171	NM_004048	B2M
QG072-02	H06	HQP006171	NM_012423	RPL13A
QG072-02	H07	HQP009026	NM_000194	HPRT1
QG072-02	H08	HQP054253	NR_003286	RN18S1
QG072-02	H09	RT		
QG072-02	H10	RT		
QG072-02	H11	PCR		
QG072-02	H12	PCR		

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