

ExProfile™ Human Hedgehog Signaling Related Gene qPCR Array

For focused group profiling of human hedgehog signaling genes expression

Cat. No. QG022-A (1 x 96-well plate, Format A)

Cat. No. QG022-B (1 x 96-well plate, Format B)

Cat. No. QG022-C (1 x 96-well plate, Format C)

Cat. No. QG022-D (1 x 96-well plate, Format D)

Cat. No. QG022-E (1 x 96-well plate, Format E)

Plates available individually or as a set of 6. Each set contains 84 unique gene primer pairs deposited in one 96-well plate.

Introduction

The ExProfile human hedgehog signaling related gene qPCR array profiles the expression of 84 human genes related to the hedgehog signaling pathway. These genes are carefully chosen for their close pathway correlation based on a thorough literature search of peer-reviewed publications, mainly including genes involved in hedgehog signaling pathway, as well as genes that encode regulators of differentiation and development. This array allows researchers to study the related genes to gain understanding of their roles in the hedgehog signaling pathway.

- QG022 plate 01: 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

GeneCopoela 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 (PCR) 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	CSNK1A1	BTRC	HPRT1	ZIC2	WNT9B	WNT9A	WNT7B	WNT7A	WNT5B	WNT5A	WNT4	WNT3A
B	WNT3	WNT2B	WNT2	WNT11	WNT10B	WNT10A	WNT1	WIF1	SUFU	STK36	SMO	SIAH1
C	SHH	SFRP1	RAB23	PTCHD3	PTCHD1	PTCH2	PTCH1	PRKX	PRKACG	PRKACA	OTX2	MTSS1
D	MAPK1	LRP2	KCTD11	IHH	IFT52	HHIP	HHAT	GSK3B	GLI3	GLI2	GLI1	FKBP8
E	FGFR3	FGF9	FBXW11	CTNNB1	CSNK1G2	CSNK1G1	CSNK1E	CSNK1D	CSNK1A1L	CSNK1A1	CRIM1	CDON
F	CEP76	C18orf8	BTRC	BMP8B	BMP8A	BMP7	BMP5	BMP4	BMP2	GREM1	WNT8A	WNT8B
G	ZIC1	FBXW11	RP3-402H5.2	DHH	WNT16	FOXE1	GAS1	NPC1L1	WNT6	PRKACB	PRKY	PTCHD2
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG022 plate 01

- **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.
- **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
QG022-01	A01	HQP003236	NM_001025105	CSNK1A1
QG022-01	A02	HQP021752	NM_003939	BTRC
QG022-01	A03	HQP009026	NM_000194	HPRT1
QG022-01	A04	HQP018596	NM_007129	ZIC2
QG022-01	A05	HQP018543	NM_003396	WNT9B
QG022-01	A06	HQP018542	NM_003395	WNT9A
QG022-01	A07	HQP018534	NM_058238	WNT7B
QG022-01	A08	HQP018533	NM_004625	WNT7A
QG022-01	A09	HQP054026	NM_032642	WNT5B
QG022-01	A10	HQP018531	NM_003392	WNT5A
QG022-01	A11	HQP013446	NM_030761	WNT4
QG022-01	A12	HQP021771	NM_033131	WNT3A
QG022-01	B01	HQP018530	NM_030753	WNT3
QG022-01	B02	HQP018540	NM_004185	WNT2B
QG022-01	B03	HQP018529	NM_003391	WNT2
QG022-01	B04	HQP018539	NM_004626	WNT11
QG022-01	B05	HQP018538	NM_003394	WNT10B
QG022-01	B06	HQP019670	NM_025216	WNT10A
QG022-01	B07	HQP018528	NM_005430	WNT1
QG022-01	B08	HQP001390	NM_007191	WIF1
QG022-01	B09	HQP012958	NM_016169	SUFU
QG022-01	B10	HQP007549	NM_015690	STK36
QG022-01	B11	HQP017563	NM_005631	SMO
QG022-01	B12	HQP017150	NM_003031	SIAH1
QG022-01	C01	HQP017098	NM_000193	SHH
QG022-01	C02	HQP016865	NM_003012	SFRP1
QG022-01	C03	HQP054041	NM_183227	RAB23
QG022-01	C04	HQP009877	NM_001034842	PTCHD3
QG022-01	C05	HQP002968	NM_173495	PTCHD1
QG022-01	C06	HQP021384	NM_003738	PTCH2
QG022-01	C07	HQP015530	NM_000264	PTCH1
QG022-01	C08	HQP014987	NM_005044	PRKX
QG022-01	C09	HQP014594	NM_002732	PRKACG
QG022-01	C10	HQP014575	NM_002730	PRKACA
QG022-01	C11	HQP012085	NM_021728	OTX2
QG022-01	C12	HQP023201	NM_014751	MTSS1
QG022-01	D01	HQP014848	NM_002745	MAPK1
QG022-01	D02	HQP010871	NM_004525	LRP2
QG022-01	D03	HQP003354	NM_001002914	KCTD11
QG022-01	D04	HQP009632	NM_002181	IHH
QG022-01	D05	HQP012391	NM_016004	IFT52
QG022-01	D06	HQP016957	NM_022475	HHIP

QG022-01	D07	HQP014640	NM_018194	HHAT
QG022-01	D08	HQP054075	NM_002093	GSK3B
QG022-01	D09	HQP007703	NM_000168	GLI3
QG022-01	D10	HQP007702	NM_005270	GLI2
QG022-01	D11	HQP007701	NM_005269	GLI1
QG022-01	D12	HQP006344	NM_012181	FKBP8
QG022-01	E01	HQP005434	NM_000142	FGFR3
QG022-01	E02	HQP005416	NM_002010	FGF9
QG022-01	E03	HQP005960	NM_012300	FBXW11
QG022-01	E04	HQP003539	NM_001904	CTNNB1
QG022-01	E05	HQP003257	NM_001319	CSNK1G2
QG022-01	E06	HQP013348	NM_022048	CSNK1G1
QG022-01	E07	HQP003249	NM_001894	CSNK1E
QG022-01	E08	HQP003240	NM_001893	CSNK1D
QG022-01	E09	HQP002148	NM_145203	CSNK1A1L
QG022-01	E10	HQP003237	NM_001892	CSNK1A1
QG022-01	E11	HQP012543	NM_016441	CRIM1
QG022-01	E12	HQP012262	NM_016952	CDON
QG022-01	F01	HQP019423	NM_024899	CEP76
QG022-01	F02	HQP008588	NM_013326	C18orf8
QG022-01	F03	HQP021753	NM_033637	BTRC
QG022-01	F04	HQP017477	NM_001720	BMP8B
QG022-01	F05	HQP009619	NM_181809	BMP8A
QG022-01	F06	HQP017467	NM_001719	BMP7
QG022-01	F07	HQP017433	NM_021073	BMP5
QG022-01	F08	HQP053910	NM_130851	BMP4
QG022-01	F09	HQP017333	NM_001200	BMP2
QG022-01	F10	HQP007313	NM_013372	GREM1
QG022-01	F11	HQP018535	NM_058244	WNT8A
QG022-01	F12	HQP018536	NM_003393	WNT8B
QG022-01	G01	HQP018595	NM_003412	ZIC1
QG022-01	G02	HQP005962	NM_033645	FBXW11
QG022-01	G03	HQP011480	NM_001013732	RP3-402H5.2
QG022-01	G04	HQP012238	NM_021044	DHH
QG022-01	G05	HQP012699	NM_057168	WNT16
QG022-01	G06	HQP005704	NM_004473	FOXO1
QG022-01	G07	HQP007115	NM_002048	GAS1
QG022-01	G08	HQP008559	NM_013389	NPC1L1
QG022-01	G09	HQP018532	NM_006522	WNT6
QG022-01	G10	HQP014584	NM_182948	PRKACB
QG022-01	G11	HQP015021	NM_002760	PRKY
QG022-01	G12	HQP054019	NM_020780	PTCHD2
QG022-01	H01	HGDC		
QG022-01	H02	HGDC		
QG022-01	H03	HQP006940	NM_002046	GAPDH
QG022-01	H04	HQP016381	NM_001101	ACTB

QG022-01	H05	HQP015171	NM_004048	B2M
QG022-01	H06	HQP006171	NM_012423	RPL13A
QG022-01	H07	HQP009026	NM_000194	HPRT1
QG022-01	H08	HQP054253	NR_003286	RN18S1
QG022-01	H09	RT		
QG022-01	H10	RT		
QG022-01	H11	PCR		
QG022-01	H12	PCR		

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