ExProfile™ Human Cancer Drug Resistance & Metabolism Related Gene qPCR Array

For focused group profiling of human cancer drug resistance & metabolism related gene expression

Cat. No. QG007-A (1 x 96-well plate, Format A)
Cat. No. QG007-B (1 x 96-well plate, Format B)
Cat. No. QG007-C (1 x 96-well plate, Format C)
Cat. No. QG007-D (1 x 96-well plate, Format D)
Cat. No. QG007-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 cancer drug resistance & metabolism related gene qPCR array profiles the expression of 84 human genes related to the response to chemotherapy. These genes are carefully chosen for their close pathway correlation based on a thorough literature search of peer-reviewed publications, and include genes that encode important enzymes for drug resistance, phase I metabolism and phase II metabolism, as well as cancer-related genes involved in aspects of resistance. This array allows researchers to study pathway-related genes to gain understanding of their roles in cancer drug resistance and metabolism.

- QG007 plate 01: 84 unique gene PCR primer pairs

Shipping and storage conditions

Shipped at room temperature
Stable for at least 6 months when stored at -20℃

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 receipt, please check to make sure that the correct array format was ordered to ensure 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	ABCB1	ABCC1	ABCC2	ABCC3	ABCC5	ABCC6	ABCG2	AHR	AP1S1	APC	AR	ARNT
B	ATM	BAX	BCL2	BCL2L1	BLMH	BRCA1	BRCA2	CCND1	CCNE1	CDK2	CDK4	CDKN1A
C	CDKN1B	CDKN2A	CDKN2D	CLPTM1L	CYP1A1	CYP1A2	CYP2B6	CYP2C19	CYP2C8	CYP2C9	CYP2D6	CYP2E1
D	CYP3A4	CYP3A5	DHFR	EGFR	ELK1	EPHX1	ERBB2	ERBB3	ERCC3	ESR1	ESR2	FGF2
E	FOS	GSK3A	GSTP1	HIF1A	IGF1R	IGF2R	MET	MSH2	MVP	MYC	NAT2	NFKB1
F	NFKB2	NFKBIB	NFKBIE	PPARA	PPARD	PPARG	RARA	RARB	RARG	RB1	RELB	RXRA
G	RXRB	SOD1	SULT1E1	TNFRSF11A	TOP1	TOP2A	TOP2B	TP53	XPC	AR	HPRT1	ABCC5
H	**HGDC**	**HGDC**	**GAPDH**	**ACTB**	**B2M**	**RPL13A**	**HPRT1**	**RN18S1**	**RT**	**RT**	**PCR**	**PCR**

Figure1. Illustration of QG007 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 reverse 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
QG007-01	A01	HQP013100	NM_000927	ABCB1
QG007-01	A02	HQP011322	NM_004996	ABCC1
QG007-01	A03	HQP002260	NM_000392	ABCC2
QG007-01	A04	HQP021459	NM_003786	ABCC3
QG007-01	A05	HQP000075	NM_005688	ABCC5
QG007-01	A06	HQP009817	NM_001171	ABCC6
QG007-01	A07	HQP022745	NM_004827	ABCG2
QG007-01	A08	HQP004658	NM_001621	AHR
QG007-01	A09	HQP001961	NM_001283	AP1S1
QG007-01	A10	HQP009024	NM_000038	APC
QG007-01	A11	HQP009801	NM_000044	AR
QG007-01	A12	HQP010924	NM_001668	ARNT
QG007-01	B01	HQP011736	NM_000051	ATM
QG007-01	B02	HQP015964	NM_004324	BAX
QG007-01	B03	HQP016211	NM_000633	BCL2
QG007-01	B04	HQP016238	NM_138578	BCL2L1
QG007-01	B05	HQP016897	NM_000386	BLMH
QG007-01	B06	HQP017713	NM_007294	BRCA1
QG007-01	B07	HQP017753	NM_000059	BRCA2
QG007-01	B08	HQP016204	NM_053056	CCND1
QG007-01	B09	HQP021819	NM_001238	CCNE1
QG007-01	B10	HQP000225	NM_001798	CDK2
QG007-01	B11	HQP000245	NM_000075	CDK4
QG007-01	B12	HQP000331	NM_000389	CDKN1A
QG007-01	C01	HQP000342	NM_004064	CDKN1B
QG007-01	C02	HQP000369	NM_000077	CDKN2A
QG007-01	C03	HQP000408	NM_001800	CDKN2D
QG007-01	C04	HQP019829	NM_030782	CLPTM1L
QG007-01	C05	HQP003772	NM_000499	CYP1A1
QG007-01	C06	HQP003774	NM_000761	CYP1A2
QG007-01	C07	HQP003808	NM_000767	CYP2B6
QG007-01	C08	HQP003809	NM_000769	CYP2C19
QG007-01	C09	HQP003810	NM_000770	CYP2C8
QG007-01	C10	HQP003811	NM_000771	CYP2C9
QG007-01	C11	HQP003814	NM_000106	CYP2D6
QG007-01	C12	HQP003817	NM_000773	CYP2E1
QG007-01	D01	HQP003836	NM_017460	CYP3A4
QG007-01	D02	HQP003841	NM_000777	CYP3A5
QG007-01	D03	HQP004309	NM_000791	DHFR
QG007-01	D04	HQP004605	NM_005228	EGFR
QG007-01	D05	HQP004749	NM_005229	ELK1

QG007-01	D06	HQP004948	NM_000120	EPHX1
QG007-01	D07	HQP004969	NM_004448	ERBB2
QG007-01	D08	HQP004971	NM_001982	ERBB3
QG007-01	D09	HQP004983	NM_000122	ERCC3
QG007-01	D10	HQP004998	NM_000125	ESR1
QG007-01	D11	HQP005002	NM_001437	ESR2
QG007-01	D12	HQP005403	NM_002006	FGF2
QG007-01	E01	HQP006188	NM_005252	FOS
QG007-01	E02	HQP008468	NM_019884	GSK3A
QG007-01	E03	HQP008487	NM_000852	GSTP1
QG007-01	E04	HQP008831	NM_001530	HIF1A
QG007-01	E05	HQP009523	NM_000875	IGF1R
QG007-01	E06	HQP009532	NM_000876	IGF2R
QG007-01	E07	HQP011181	NM_000245	MET
QG007-01	E08	HQP011491	NM_000251	MSH2
QG007-01	E09	HQP054016	NM_017458	MVP
QG007-01	E10	HQP011597	NM_002467	MYC
QG007-01	E11	HQP001136	NM_000015	NAT2
QG007-01	E12	HQP011807	NM_003998	NFKB1
QG007-01	F01	HQP053985	NM_002502	NFKB2
QG007-01	F02	HQP011812	NM_002503	NFKBIB
QG007-01	F03	HQP011813	NM_004556	NFKBIE
QG007-01	F04	HQP054001	NM_005036	PPARA
QG007-01	F05	HQP013627	NM_006238	PPARD
QG007-01	F06	HQP013634	NM_015869	PPARG
QG007-01	F07	HQP016114	NM_000964	RARA
QG007-01	F08	HQP016116	NM_000965	RARB
QG007-01	F09	HQP016118	NM_000966	RARG
QG007-01	F10	HQP016131	NM_000321	RB1
QG007-01	F11	HQP016214	NM_006509	RELB
QG007-01	F12	HQP016526	NM_002957	RXRA
QG007-01	G01	HQP016527	NM_021976	RXRB
QG007-01	G02	HQP017615	NM_000454	SOD1
QG007-01	G03	HQP017784	NM_005420	SULT1E1
QG007-01	G04	HQP021550	NM_003839	TNFRSF11A
QG007-01	G05	HQP018171	NM_003286	TOP1
QG007-01	G06	HQP018172	NM_001067	TOP2A
QG007-01	G07	HQP018173	NM_001068	TOP2B
QG007-01	G08	HQP018175	NM_000546	TP53
QG007-01	G09	HQP018556	NM_004628	XPC
QG007-01	G10	HQP009802	NM_001011645	AR
QG007-01	G11	HQP009026	NM_000194	HPRT1
QG007-01	G12	HQP000074	NM_001023587	ABCC5
QG007-01	H01	HGDC		
QG007-01	H02	HGDC		
QG007-01	H03	HQP006940	NM_002046	GAPDH
QG007-01	H04	HQP016381	NM_001101	ACTB

QG007-01	H05	HQP015171	NM_004048	B2M
QG007-01	H06	HQP006171	NM_012423	RPL13A
QG007-01	H07	HQP009026	NM_000194	HPRT1
QG007-01	H08	HQP054253	NR_003286	RN18S1
QG007-01	H09	RT		
QG007-01	H10	RT		
QG007-01	H11	PCR		
QG007-01	H12	PCR		

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Following terms and conditions apply to use of ExProfile™ Human Cancer Drug Resistance & Metabolism Related Gene qPCR Array (the Product). If the terms and conditions are not acceptable, the Product in its entirety must be returned to GeneCopoeia within 5 calendar days. A limited End-User license is granted to the purchaser of the Product. The Product shall be used by the purchaser for internal research purposes only. The Product is expressly not designed, intended, or warranted for use in humans or for therapeutic or diagnostic use. The Product must not be resold, repackaged or modified for resale, or used to manufacture commercial products or deliver information obtained in service without prior written consent from GeneCopoeia. This Product should be used in accordance with the NIH guidelines developed for recombinant DNA and genetic research. Use of any part of the Product constitutes acceptance of the above terms.

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