ExProfile™ Human Drug Metabolism Related Gene qPCR Array

For focused group profiling of human drug metabolism genes expression

Cat. No. QG011-A (1 x 96-well plate, Format A)
Cat. No. QG011-B (1 x 96-well plate, Format B)
Cat. No. QG011-C (1 x 96-well plate, Format C)
Cat. No. QG011-D (1 x 96-well plate, Format D)
Cat. No. QG011-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 drug metabolism related gene qPCR array profiles the expression of 84 human genes related to the metabolism of drugs, toxic chemicals, hormones and micronutrients which are important to pharmacology, endocrinology and food science. These genes are carefully chosen for their close correlation based on a thorough literature search of peer-reviewed publications, mainly including genes that encode various drug transporters and metabolizing enzymes, as well as other related genes. This array allows researchers to study the related genes to gain understanding of their roles in the process of drug metabolism.

- QG011 plate 01: 84 unique gene PCR primer pairs

Shipping and storage condition

Shipped at room temperate
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 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	GPX5	HPRT1	ABCC1	SRD5A2	SRD5A1	SMARCAL1	PON3	PON1	PKM2	PKLR	NQO1	NOS3
B	NAT2	NAT1	MTHFR	MT3	MT2A	MPO	MGST3	MGST1	HSD17B3	HSD17B2	HSD17B1	HK2
C	GSTZ1	GSTP1	GSTM3	GSTM2	GSTA4	GSTA3	GSR	GPX5	GPX4	GPX3	GPX2	GPX1
D	GPI	GGT1	GCKR	GAD1	FBP1	FAAH	EPHX1	CYP3A5	CYP2J2	CYP2F1	CYP2E1	CYP2D6
E	CYP2C9	CYP2C8	CYP2C19	CYP2B6	CYP1A1	CYP19A1	CYP17A1	COMT	CHST1	CES2	BLVRA	ARNT
F	APOE	ALOX5	ALOX15	ALOX12	ALDH1A1	AHR	ADH6	ADH5	ADH4	ADH1C	ADH1B	ABP1
G	ABCC1	ABCB1	CYP11B2	LPO	MGST2	ASNA1	BLVRB	CYB5R3	GSTT1	MARCKS	PON2	SNN
H	**HGDC**	**HGDC**	**GAPDH**	**ACTB**	**B2M**	**RPL13A**	**HPRT1**	**RN18S1**	**RT**	**RT**	**PCR**	**PCR**

Figure1. Illustration of QG011 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
QG011-01	A01	HQP008289	NM_003996	GPX5
QG011-01	A02	HQP009026	NM_000194	HPRT1
QG011-01	A03	HQP011325	NM_019899	ABCC1
QG011-01	A04	HQP017698	NM_000348	SRD5A2
QG011-01	A05	HQP017697	NM_001047	SRD5A1
QG011-01	A06	HQP012132	NM_014140	SMARCAL1
QG011-01	A07	HQP013493	NM_000940	PON3
QG011-01	A08	HQP013473	NM_000446	PON1
QG011-01	A09	HQP013185	NM_002654	PKM2
QG011-01	A10	HQP013181	NM_000298	PKLR
QG011-01	A11	HQP004317	NM_000903	NQO1
QG011-01	A12	HQP011868	NM_000603	NOS3
QG011-01	B01	HQP001136	NM_000015	NAT2
QG011-01	B02	HQP023467	NM_000662	NAT1
QG011-01	B03	HQP011547	NM_005957	MTHFR
QG011-01	B04	HQP011539	NM_005954	MT3
QG011-01	B05	HQP011538	NM_005953	MT2A
QG011-01	B06	HQP011309	NM_000250	MPO
QG011-01	B07	HQP011210	NM_004528	MGST3
QG011-01	B08	HQP011208	NM_020300	MGST1
QG011-01	B09	HQP009065	NM_000197	HSD17B3
QG011-01	B10	HQP009066	NM_002153	HSD17B2
QG011-01	B11	HQP009064	NM_000413	HSD17B1
QG011-01	B12	HQP008843	NM_000189	HK2
QG011-01	C01	HQP008490	NM_001513	GSTZ1
QG011-01	C02	HQP008487	NM_000852	GSTP1
QG011-01	C03	HQP008483	NM_000849	GSTM3
QG011-01	C04	HQP008482	NM_000848	GSTM2
QG011-01	C05	HQP008479	NM_001512	GSTA4
QG011-01	C06	HQP008478	NM_000847	GSTA3
QG011-01	C07	HQP008473	NM_000637	GSR
QG011-01	C08	HQP008288	NM_001509	GPX5
QG011-01	C09	HQP008285	NM_002085	GPX4
QG011-01	C10	HQP008282	NM_002084	GPX3
QG011-01	C11	HQP008281	NM_002083	GPX2
QG011-01	C12	HQP008279	NM_000581	GPX1
QG011-01	D01	HQP007814	NM_000175	GPI

QG011-01	D02	HQP054003	NM_005265	GGT1
QG011-01	D03	HQP007245	NM_001486	GCKR
QG011-01	D04	HQP006683	NM_000817	GAD1
QG011-01	D05	HQP005224	NM_000507	FBP1
QG011-01	D06	HQP005071	NM_001441	FAAH
QG011-01	D07	HQP004948	NM_000120	EPHX1
QG011-01	D08	HQP003841	NM_000777	CYP3A5
QG011-01	D09	HQP003823	NM_000775	CYP2J2
QG011-01	D10	HQP003818	NM_000774	CYP2F1
QG011-01	D11	HQP003817	NM_000773	CYP2E1
QG011-01	D12	HQP003814	NM_000106	CYP2D6
QG011-01	E01	HQP003811	NM_000771	CYP2C9
QG011-01	E02	HQP003810	NM_000770	CYP2C8
QG011-01	E03	HQP003809	NM_000769	CYP2C19
QG011-01	E04	HQP003808	NM_000767	CYP2B6
QG011-01	E05	HQP003772	NM_000499	CYP1A1
QG011-01	E06	HQP003904	NM_000103	CYP19A1
QG011-01	E07	HQP003888	NM_000102	CYP17A1
QG011-01	E08	HQP002671	NM_000754	COMT
QG011-01	E09	HQP021186	NM_003654	CHST1
QG011-01	E10	HQP021586	NM_198061	CES2
QG011-01	E11	HQP017020	NM_000712	BLVRA
QG011-01	E12	HQP010924	NM_001668	ARNT
QG011-01	F01	HQP009556	NM_000041	APOE
QG011-01	F02	HQP006359	NM_000698	ALOX5
QG011-01	F03	HQP006425	NM_001140	ALOX15
QG011-01	F04	HQP006356	NM_000697	ALOX12
QG011-01	F05	HQP005075	NM_000689	ALDH1A1
QG011-01	F06	HQP004658	NM_001621	AHR
QG011-01	F07	HQP002659	NM_000672	ADH6
QG011-01	F08	HQP002542	NM_000671	ADH5
QG011-01	F09	HQP002469	NM_000670	ADH4
QG011-01	F10	HQP002413	NM_000669	ADH1C
QG011-01	F11	HQP002331	NM_000668	ADH1B
QG011-01	F12	HQP007422	NM_001091	ABP1
QG011-01	G01	HQP011322	NM_004996	ABCC1
QG011-01	G02	HQP013100	NM_000927	ABCB1
QG011-01	G03	HQP003887	NM_000498	CYP11B2
QG011-01	G04	HQP010851	NM_006151	LPO
QG011-01	G05	HQP011209	NM_002413	MGST2
QG011-01	G06	HQP011344	NM_004317	ASNA1

QG011-01	G07	HQP017062	NM_000713	BLVRB
QG011-01	G08	HQP004316	NM_007326	CYB5R3
QG011-01	G09	HQP008488	NM_000853	GSTT1
QG011-01	G10	HQP010955	NM_002356	MARCKS
QG011-01	G11	HQP013480	NM_000305	PON2
QG011-01	G12	HQP020110	NM_003498	SNN
QG011-01	H01	HGDC		
QG011-01	H02	HGDC		
QG011-01	H03	HQP006940	NM_002046	GAPDH
QG011-01	H04	HQP016381	NM_001101	ACTB
QG011-01	H05	HQP015171	NM_004048	B2M
QG011-01	H06	HQP006171	NM_012423	RPL13A
QG011-01	H07	HQP009026	NM_000194	HPRT1
QG011-01	H08	HQP054253	NR_003286	RN18S1
QG011-01	H09	RT		
QG011-01	H10	RT		
QG011-01	H11	PCR		
QG011-01	H12	PCR		

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