ExProfile™ Human Stress & Toxicity Related Gene qPCR Array

For focused group profiling of human stress and toxicity genes expression

Cat. No. QG050-A (1 x 96-well plate, Format A)
Cat. No. QG050-B (1 x 96-well plate, Format B)
Cat. No. QG050-C (1 x 96-well plate, Format C)
Cat. No. QG050-D (1 x 96-well plate, Format D)
Cat. No. QG050-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 stress and toxicity related gene qPCR array profiles the expression of 84 human genes related to cellular responses to stress and toxicity. These genes are carefully chosen for their close correlation based on a thorough literature search of peer-reviewed publications, mainly including genes involved in oxidative stress, hypoxia, osmotic stress, cell death, inflammatory response, DNA damage signaling, heat shock proteins/unfolded protein response. This array allows researchers to study the related genes to gain understanding of their roles in cellular responses to stress and toxicity.

- QG050 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	MDM2	CASP8	CASP1	HPRT1	XRCC2	XRCC1	UGT1A4	TP53	TNFSF10	TNFRSF1A	TNF	SOD2
B	SOD1	SERPINE1	RAD50	RAD23A	PTGS1	PRDX2	PRDX1	POR	PCNA	NOS2A	NFKBIA	NFKB1
C	MT2A	MIF	MDM2	LTA	IL6	IL1B	IL1A	IL18	IGFBP6	HSPH1	HSPE1	HSPD1
D	HSP90AB1	HSPB1	HSPA8	HSPA6	HSPA5	HSPA4	HSPA2	HSPA1L	HSPA1A	HSF1	HMOX1	GSTM3
E	GSR	GPX1	GDF15	GADD45A	FMO5	FMO1	FASLG	ERCC3	ERCC1	EPHX2	EGR1	E2F1
F	DNAJB4	DNAJA1	DDIT3	DDB1	CYP7A1	CYP2E1	CYP1A1	CXCL10	CSF2	CDKN1A	CCNG1	CCND1
G	CCL4	CCL3	CCL21	CASP10	CASP1	BCL2L1	BAX	ATM	ANXA5	CASP8	CAT	CCNC
H	**HGDC**	**HGDC**	**GAPDH**	**ACTB**	**B2M**	**RPL13A**	**HPRT1**	**RN18S1**	**RT**	**RT**	**PCR**	**PCR**

Figure1. Illustration of QG050 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
QG050-01	A01	HQP011136	NM_006878	MDM2
QG050-01	A02	HQP020550	NM_033358	CASP8
QG050-01	A03	HQP020210	NM_033294	CASP1
QG050-01	A04	HQP009026	NM_000194	HPRT1
QG050-01	A05	HQP018563	NM_005431	XRCC2
QG050-01	A06	HQP018562	NM_006297	XRCC1
QG050-01	A07	HQP013614	NM_007120	UGT1A4
QG050-01	A08	HQP018175	NM_000546	TP53
QG050-01	A09	HQP021502	NM_003810	TNFSF10
QG050-01	A10	HQP018148	NM_001065	TNFRSF1A
QG050-01	A11	HQP018141	NM_000594	TNF
QG050-01	A12	HQP017616	NM_000636	SOD2
QG050-01	B01	HQP017615	NM_000454	SOD1
QG050-01	B02	HQP012154	NM_000602	SERPINE1
QG050-01	B03	HQP000145	NM_005732	RAD50
QG050-01	B04	HQP016075	NM_005053	RAD23A
QG050-01	B05	HQP015596	NM_000962	PTGS1
QG050-01	B06	HQP018000	NM_005809	PRDX2
QG050-01	B07	HQP012152	NM_002574	PRDX1
QG050-01	B08	HQP013504	NM_000941	POR
QG050-01	B09	HQP054038	NM_182649	PCNA
QG050-01	B10	HQP011866	NM_000625	NOS2A
QG050-01	B11	HQP011810	NM_020529	NFKBIA
QG050-01	B12	HQP011807	NM_003998	NFKB1
QG050-01	C01	HQP011538	NM_005953	MT2A
QG050-01	C02	HQP011219	NM_002415	MIF
QG050-01	C03	HQP011135	NM_002392	MDM2
QG050-01	C04	HQP010907	NM_000595	LTA
QG050-01	C05	HQP009670	NM_000600	IL6
QG050-01	C06	HQP009641	NM_000576	IL1B
QG050-01	C07	HQP009640	NM_000575	IL1A
QG050-01	C08	HQP009718	NM_001562	IL18
QG050-01	C09	HQP009555	NM_002178	IGFBP6
QG050-01	C10	HQP000946	NM_006644	HSPH1
QG050-01	C11	HQP009102	NM_002157	HSPE1
QG050-01	C12	HQP009098	NM_002156	HSPD1
QG050-01	D01	HQP009097	NM_007355	HSP90AB1
QG050-01	D02	HQP009089	NM_001540	HSPB1
QG050-01	D03	HQP009086	NM_006597	HSPA8
QG050-01	D04	HQP009085	NM_002155	HSPA6
QG050-01	D05	HQP009083	NM_005347	HSPA5
QG050-01	D06	HQP009081	NM_002154	HSPA4

QG050-01	D07	HQP009080	NM_021979	HSPA2
QG050-01	D08	HQP009079	NM_005527	HSPA1L
QG050-01	D09	HQP009077	NM_005345	HSPA1A
QG050-01	D10	HQP009068	NM_005526	HSF1
QG050-01	D11	HQP008898	NM_002133	HMOX1
QG050-01	D12	HQP008483	NM_000849	GSTM3
QG050-01	E01	HQP008473	NM_000637	GSR
QG050-01	E02	HQP008279	NM_000581	GPX1
QG050-01	E03	HQP022853	NM_004864	GDF15
QG050-01	E04	HQP004125	NM_001924	GADD45A
QG050-01	E05	HQP005979	NM_001461	FMO5
QG050-01	E06	HQP005939	NM_002021	FMO1
QG050-01	E07	HQP009671	NM_000639	FASLG
QG050-01	E08	HQP004983	NM_000122	ERCC3
QG050-01	E09	HQP004974	NM_001983	ERCC1
QG050-01	E10	HQP004950	NM_001979	EPHX2
QG050-01	E11	HQP004612	NM_001964	EGR1
QG050-01	E12	HQP004524	NM_005225	E2F1
QG050-01	F01	HQP001241	NM_007034	DNAJB4
QG050-01	F02	HQP009076	NM_001539	DNAJA1
QG050-01	F03	HQP004127	NM_004083	DDIT3
QG050-01	F04	HQP004111	NM_001923	DDB1
QG050-01	F05	HQP003859	NM_000780	CYP7A1
QG050-01	F06	HQP003817	NM_000773	CYP2E1
QG050-01	F07	HQP003772	NM_000499	CYP1A1
QG050-01	F08	HQP009746	NM_001565	CXCL10
QG050-01	F09	HQP003159	NM_000758	CSF2
QG050-01	F10	HQP000331	NM_000389	CDKN1A
QG050-01	F11	HQP021857	NM_004060	CCNG1
QG050-01	F12	HQP016204	NM_053056	CCND1
QG050-01	G01	HQP016625	NM_002984	CCL4
QG050-01	G02	HQP016622	NM_002983	CCL3
QG050-01	G03	HQP016640	NM_002989	CCL21
QG050-01	G04	HQP020709	NM_001230	CASP10
QG050-01	G05	HQP020208	NM_033292	CASP1
QG050-01	G06	HQP016238	NM_138578	BCL2L1
QG050-01	G07	HQP015964	NM_004324	BAX
QG050-01	G08	HQP011736	NM_000051	ATM
QG050-01	G09	HQP008829	NM_001154	ANXA5
QG050-01	G10	HQP020548	NM_001228	CASP8
QG050-01	G11	HQP020946	NM_001752	CAT
QG050-01	G12	HQP021735	NM_005190	CCNC
QG050-01	H01	HGDC		
QG050-01	H02	HGDC		
QG050-01	H03	HQP006940	NM_002046	GAPDH
QG050-01	H04	HQP016381	NM_001101	ACTB

QG050-01	H05	HQP015171	NM_004048	B2M
QG050-01	H06	HQP006171	NM_012423	RPL13A
QG050-01	H07	HQP009026	NM_000194	HPRT1
QG050-01	H08	HQP054253	NR_003286	RN18S1
QG050-01	H09	RT		
QG050-01	H10	RT		
QG050-01	H11	PCR		
QG050-01	H12	PCR		

Limited Use License

Following terms and conditions apply to use of ExProfile™ Human Stress & Toxicity 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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GeneCopoeia warrants that the Product meets the specifications described in the accompanying Product Datasheet. If it is proven to the satisfaction of GeneCopoeia that the Product fails to meet these specifications, GeneCopoeia will replace the Product. In the event a replacement cannot be provided, GeneCopoeia will provide the purchaser with a refund. This limited warranty shall not extend to anyone other than the original purchaser of the Product. Notice of nonconforming products must be made to GeneCopoeia within 30 days of receipt of the Product. GeneCopoeia's liability is expressly limited to replacement of Product or a refund limited to the actual purchase price.
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