ExProfile™ Human Oxidative Stress and Antioxidant Defense Related Gene qPCR Array

For focused group profiling of human oxidative stress and antioxidant defense genes expression

Cat. No. QG045-A (1 x 96-well plate, Format A)
Cat. No. QG045-B (1 x 96-well plate, Format B)
Cat. No. QG045-C (1 x 96-well plate, Format C)
Cat. No. QG045-D (1 x 96-well plate, Format D)
Cat. No. QG045-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 oxidative stress and antioxidant defense related gene qPCR array profiles the expression of 84 human genes related to oxidative stress. These genes are carefully chosen for their close correlation based on a thorough literature search of peer-reviewed publications, mainly including genes that encode antioxidants, as well as genes involved in reactive oxygen species (ROS) metabolism. This array allows researchers to study the related genes to gain understanding of their roles in the functioning and characterization of oxidative stress.

- QG045 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	TTN	SCARA3	GPX5	HPRT1	TXNRD2	TXNRD1	TXNDC2	TTN	TPO	STK25	SRXN1	SOD2
B	SOD1	SIRT2	SFTPD	SEPP1	SELS	PXDN	PTGS2	PTGS1	PREX1	PRDX6	PRDX4	PRDX3
C	PRDX2	PRDX1	PIP3-E	PDLIM1	OXSR1	NOX5	NOS2A	NME5	NCF2	NCF1	MT3	MSRA
D	MPV17	MPO	MGST3	MBL2	KRT1	GSTZ1	GSS	GSR	GPX6	GPX5	GPX4	GPX3
E	GPX2	GPX1	GPR156	FOXM1	EPX	EPHX2	DUSP1	DUOX2	DUOX1	DHCR24	DGKK	CYGB
F	CSDE1	CCL5	BNIP3	ATOX1	APOE	AOX1	ANGPTL7	ALOX12	ALB	LPO	SOD3	CAT
G	CCS	CYBA	GTF2I	MTL5	PNKP	PRDX5	PRG3	PRNP	PXDNL	RNF7	SCARA3	SGK2
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG045 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
QG045-01	A01	HQP018291	NM_133379	TTN
QG045-01	A02	HQP012736	NM_016240	SCARA3
QG045-01	A03	HQP008289	NM_003996	GPX5
QG045-01	A04	HQP009026	NM_000194	HPRT1
QG045-01	A05	HQP000708	NM_006440	TXNRD2
QG045-01	A06	HQP018336	NM_003330	TXNRD1
QG045-01	A07	HQP020551	NM_032243	TXNDC2
QG045-01	A08	HQP018289	NM_003319	TTN
QG045-01	A09	HQP018214	NM_000547	TPO
QG045-01	A10	HQP000598	NM_006374	STK25
QG045-01	A11	HQP003061	NM_080725	SRXN1
QG045-01	A12	HQP017616	NM_000636	SOD2
QG045-01	B01	HQP017615	NM_000454	SOD1
QG045-01	B02	HQP005604	NM_012237	SIRT2
QG045-01	B03	HQP016980	NM_003019	SFTPD
QG045-01	B04	HQP016819	NM_005410	SEPP1
QG045-01	B05	HQP054043	NM_203472	SELS
QG045-01	B06	HQP018781	NM_012293	PXDN
QG045-01	B07	HQP015598	NM_000963	PTGS2
QG045-01	B08	HQP015596	NM_000962	PTGS1
QG045-01	B09	HQP015732	NM_020820	PREX1
QG045-01	B10	HQP022952	NM_004905	PRDX6
QG045-01	B11	HQP000655	NM_006406	PRDX4
QG045-01	B12	HQP001067	NM_006793	PRDX3
QG045-01	C01	HQP018000	NM_005809	PRDX2
QG045-01	C02	HQP012152	NM_002574	PRDX1
QG045-01	C03	HQP006987	NM_015553	PIP3-E
QG045-01	C04	HQP022118	NM_020992	PDLIM1
QG045-01	C05	HQP023391	NM_005109	OXSR1
QG045-01	C06	HQP019025	NM_024505	NOX5
QG045-01	C07	HQP011866	NM_000625	NOS2A
QG045-01	C08	HQP020335	NM_003551	NME5
QG045-01	C09	HQP011693	NM_000433	NCF2
QG045-01	C10	HQP017417	NM_000265	NCF1
QG045-01	C11	HQP011539	NM_005954	MT3
QG045-01	C12	HQP011523	NM_012331	MSRA
QG045-01	D01	HQP011314	NM_002437	MPV17
QG045-01	D02	HQP011309	NM_000250	MPO
QG045-01	D03	HQP011210	NM_004528	MGST3
QG045-01	D04	HQP011077	NM_000242	MBL2

QG045-01	D05	HQP010136	NM_006121	KRT1
QG045-01	D06	HQP008490	NM_001513	GSTZ1
QG045-01	D07	HQP008474	NM_000178	GSS
QG045-01	D08	HQP008473	NM_000637	GSR
QG045-01	D09	HQP006685	NM_182701	GPX6
QG045-01	D10	HQP008288	NM_001509	GPX5
QG045-01	D11	HQP008285	NM_002085	GPX4
QG045-01	D12	HQP008282	NM_002084	GPX3
QG045-01	E01	HQP008281	NM_002083	GPX2
QG045-01	E02	HQP008279	NM_000581	GPX1
QG045-01	E03	HQP004150	NM_153002	GPR156
QG045-01	E04	HQP005712	NM_021953	FOXM1
QG045-01	E05	HQP020089	NM_000502	EPX
QG045-01	E06	HQP004950	NM_001979	EPHX2
QG045-01	E07	HQP004498	NM_004417	DUSP1
QG045-01	E08	HQP012142	NM_014080	DUOX2
QG045-01	E09	HQP054035	NM_175940	DUOX1
QG045-01	E10	HQP004308	NM_014762	DHCR24
QG045-01	E11	HQP002957	NM_001013742	DGKK
QG045-01	E12	HQP001679	NM_134268	CYGB
QG045-01	F01	HQP018772	NM_007158	CSDE1
QG045-01	F02	HQP016626	NM_002985	CCL5
QG045-01	F03	HQP017619	NM_004052	BNIP3
QG045-01	F04	HQP011770	NM_004045	ATOX1
QG045-01	F05	HQP009556	NM_000041	APOE
QG045-01	F06	HQP008905	NM_001159	AOX1
QG045-01	F07	HQP000272	NM_021146	ANGPTL7
QG045-01	F08	HQP006356	NM_000697	ALOX12
QG045-01	F09	HQP005047	NM_000477	ALB
QG045-01	F10	HQP010851	NM_006151	LPO
QG045-01	F11	HQP017618	NM_003102	SOD3
QG045-01	F12	HQP020946	NM_001752	CAT
QG045-01	G01	HQP023439	NM_005125	CCS
QG045-01	G02	HQP003737	NM_000101	CYBA
QG045-01	G03	HQP008506	NM_001518	GTF2I
QG045-01	G04	HQP023011	NM_004923	MTL5
QG045-01	G05	HQP001521	NM_007254	PNKP
QG045-01	G06	HQP006759	NM_181652	PRDX5
QG045-01	G07	HQP000461	NM_006093	PRG3
QG045-01	G08	HQP054040	NM_183079	PRNP
QG045-01	G09	HQP002882	NM_144651	PXDNL
QG045-01	G10	HQP022982	NM_014245	RNF7
QG045-01	G11	HQP012737	NM_182826	SCARA3
QG045-01	G12	HQP000143	NM_016276	SGK2
QG045-01	H01	HGDC		
QG045-01	H02	HGDC		

QG045-01	H03	HQP006940	NM_002046	GAPDH
QG045-01	H04	HQP016381	NM_001101	ACTB
QG045-01	H05	HQP015171	NM_004048	B2M
QG045-01	H06	HQP006171	NM_012423	RPL13A
QG045-01	H07	HQP009026	NM_000194	HPRT1
QG045-01	H08	HQP054253	NR_003286	RN18S1
QG045-01	H09	RT		
QG045-01	H10	RT		
QG045-01	H11	PCR		
QG045-01	H12	PCR		

Limited Use License

Following terms and conditions apply to use of ExProfile™ Human Oxidative Stress and Antioxidant Defense 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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