

ExProfile™ Human Nitric Oxide Signaling Related Gene qPCR Array

For focused group profiling of human nitric oxide signaling genes expression

Cat. No. QG041-A (1 x 96-well plate, Format A)

Cat. No. QG041-B (1 x 96-well plate, Format B)

Cat. No. QG041-C (1 x 96-well plate, Format C)

Cat. No. QG041-D (1 x 96-well plate, Format D)

Cat. No. QG041-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 nitric oxide signaling related gene qPCR array profiles the expression of 84 human genes related to the second messenger nitric oxide (NO) signaling pathway. These genes are carefully chosen for their close correlation based on a thorough literature search of peer-reviewed publications, mainly including genes involved in nitric oxide biosynthesis, superoxide metabolism and response to oxidative stress, as well as genes induced or suppressed by NO. This array allows researchers to study the related genes to gain understanding of their roles in the functioning and characterization of nitric oxide signaling pathway.

- QG041 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	TTN	SCARA3	GPX5	HPRT1	VEGFA	TXNRD2	TTN	TROAP	TPO	SRXN1	SOD2	SOD1
B	SIRT2	SEPP1	SELS	PRKCA	PRKAR1B	PREX1	PRDX6	PRDX2	PPP3CA	NQO1	NOX5	NOS3
C	NOS2A	NME5	NCF2	NCF1	MYB	MT3	MSRA	MPO	MBL2	KRT1	JUN	INS
D	IL8	IL10	HSP90AB1	GSS	GRIN2D	GPX6	GPX5	GPX4	GPX3	GPX2	GPX1	GPR156
E	GLA	GCH1	FOXO1	EPX	EGFR	DUSP1	DUOX2	DUOX1	DLG4	DDAH2	CYGB	CSDE1
F	CDKN1A	CCNA1	CAMK1	ATOX1	ARG2	APOE	ALOX12	AKT1	GCHFR	LPO	SOD3	CAT
G	CCS	CYBA	DYNLL1	MTL5	PNKP	PRDX5	PRG3	PRNP	RNF7	SCARA3	SCRT2	SGK2
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG041 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
QG041-01	A01	HQP018291	NM_133379	TTN
QG041-01	A02	HQP012736	NM_016240	SCARA3
QG041-01	A03	HQP008289	NM_003996	GPX5
QG041-01	A04	HQP009026	NM_000194	HPRT1
QG041-01	A05	HQP018481	NM_003376	VEGFA
QG041-01	A06	HQP000708	NM_006440	TXNRD2
QG041-01	A07	HQP018289	NM_003319	TTN
QG041-01	A08	HQP000043	NM_005480	TROAP
QG041-01	A09	HQP018214	NM_000547	TPO
QG041-01	A10	HQP003061	NM_080725	SRXN1
QG041-01	A11	HQP017616	NM_000636	SOD2
QG041-01	A12	HQP017615	NM_000454	SOD1
QG041-01	B01	HQP005604	NM_012237	SIRT2
QG041-01	B02	HQP016819	NM_005410	SEPP1
QG041-01	B03	HQP054043	NM_203472	SELS
QG041-01	B04	HQP014706	NM_002737	PRKCA
QG041-01	B05	HQP014672	NM_002735	PRKAR1B
QG041-01	B06	HQP015732	NM_020820	PREX1
QG041-01	B07	HQP022952	NM_004905	PRDX6
QG041-01	B08	HQP018000	NM_005809	PRDX2
QG041-01	B09	HQP014309	NM_000944	PPP3CA
QG041-01	B10	HQP004317	NM_000903	NQO1
QG041-01	B11	HQP019025	NM_024505	NOX5
QG041-01	B12	HQP011868	NM_000603	NOS3
QG041-01	C01	HQP011866	NM_000625	NOS2A
QG041-01	C02	HQP020335	NM_003551	NME5
QG041-01	C03	HQP011693	NM_000433	NCF2
QG041-01	C04	HQP017417	NM_000265	NCF1
QG041-01	C05	HQP011587	NM_005375	MYB
QG041-01	C06	HQP011539	NM_005954	MT3
QG041-01	C07	HQP011523	NM_012331	MSRA
QG041-01	C08	HQP011309	NM_000250	MPO
QG041-01	C09	HQP011077	NM_000242	MBL2
QG041-01	C10	HQP010136	NM_006121	KRT1
QG041-01	C11	HQP009853	NM_002228	JUN
QG041-01	C12	HQP009749	NM_000207	INS
QG041-01	D01	HQP009678	NM_000584	IL8
QG041-01	D02	HQP009685	NM_000572	IL10
QG041-01	D03	HQP009097	NM_007355	HSP90AB1
QG041-01	D04	HQP008474	NM_000178	GSS

QG041-01	D05	HQP008380	NM_000836	GRIN2D
QG041-01	D06	HQP006685	NM_182701	GPX6
QG041-01	D07	HQP008288	NM_001509	GPX5
QG041-01	D08	HQP008285	NM_002085	GPX4
QG041-01	D09	HQP008282	NM_002084	GPX3
QG041-01	D10	HQP008281	NM_002083	GPX2
QG041-01	D11	HQP008279	NM_000581	GPX1
QG041-01	D12	HQP004150	NM_153002	GPR156
QG041-01	E01	HQP007574	NM_000169	GLA
QG041-01	E02	HQP007235	NM_000161	GCH1
QG041-01	E03	HQP005712	NM_021953	FOXM1
QG041-01	E04	HQP020089	NM_000502	EPX
QG041-01	E05	HQP004605	NM_005228	EGFR
QG041-01	E06	HQP004498	NM_004417	DUSP1
QG041-01	E07	HQP012142	NM_014080	DUOX2
QG041-01	E08	HQP054035	NM_175940	DUOX1
QG041-01	E09	HQP004342	NM_001365	DLG4
QG041-01	E10	HQP006223	NM_013974	DDAH2
QG041-01	E11	HQP001679	NM_134268	CYGB
QG041-01	E12	HQP018772	NM_007158	CSDE1
QG041-01	F01	HQP000331	NM_000389	CDKN1A
QG041-01	F02	HQP021692	NM_003914	CCNA1
QG041-01	F03	HQP021198	NM_003656	CAMK1
QG041-01	F04	HQP011770	NM_004045	ATOX1
QG041-01	F05	HQP010138	NM_001172	ARG2
QG041-01	F06	HQP009556	NM_000041	APOE
QG041-01	F07	HQP006356	NM_000697	ALOX12
QG041-01	F08	HQP054002	NM_005163	AKT1
QG041-01	F09	HQP007238	NM_005258	GCHFR
QG041-01	F10	HQP010851	NM_006151	LPO
QG041-01	F11	HQP017618	NM_003102	SOD3
QG041-01	F12	HQP020946	NM_001752	CAT
QG041-01	G01	HQP023439	NM_005125	CCS
QG041-01	G02	HQP003737	NM_000101	CYBA
QG041-01	G03	HQP053992	NM_003746	DYNLL1
QG041-01	G04	HQP023011	NM_004923	MTL5
QG041-01	G05	HQP001521	NM_007254	PNKP
QG041-01	G06	HQP006759	NM_181652	PRDX5
QG041-01	G07	HQP000461	NM_006093	PRG3
QG041-01	G08	HQP054040	NM_183079	PRNP
QG041-01	G09	HQP022982	NM_014245	RNF7
QG041-01	G10	HQP012737	NM_182826	SCARA3
QG041-01	G11	HQP021265	NM_033129	SCRT2
QG041-01	G12	HQP000143	NM_016276	SGK2
QG041-01	H01	HGDC		
QG041-01	H02	HGDC		

QG041-01	H03	HQP006940	NM_002046	GAPDH
QG041-01	H04	HQP016381	NM_001101	ACTB
QG041-01	H05	HQP015171	NM_004048	B2M
QG041-01	H06	HQP006171	NM_012423	RPL13A
QG041-01	H07	HQP009026	NM_000194	HPRT1
QG041-01	H08	HQP054253	NR_003286	RN18S1
QG041-01	H09	RT		
QG041-01	H10	RT		
QG041-01	H11	PCR		
QG041-01	H12	PCR		

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