

ExProfile™ Human Growth and Development Toxicity Related Gene qPCR Array

For focused group profiling of human growth and development toxicity related gene expression

Cat. No. QG021-A (1 x 96-well plate, Format A)

Cat. No. QG021-B (1 x 96-well plate, Format B)

Cat. No. QG021-C (1 x 96-well plate, Format C)

Cat. No. QG021-D (1 x 96-well plate, Format D)

Cat. No. QG021-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 growth and development toxicity related gene qPCR array profiles the expression of 84 growth factor and receptor genes important in developmental process. These genes are carefully chosen for their close development correlation based on a thorough literature search of peer-reviewed publications. This array allows researchers to study the pathway-related genes to gain understanding of their roles in the response against toxins.

- QG021 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 °C

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	ALDH1A2	BAX	BIRC5	BTG1	CASP8	CD40	CSK	CTGF	CTNNB1	E2F1	E2F4	EDN1
B	EDN3	EDNRB	EGF	EGFR	ERBB2	ESR2	FGF1	FGF10	FGF2	FGF5	FGF7	FGF8
C	FGF9	FGFR2	FGFR3	FGFR4	FOS	FOXM1	GAP43	HBEGF	HGF	HPRT1	HTATIP	IGF1
D	IGF1R	IGF2	IGFBP1	IGFBP2	IGFBP3	IGFBP4	IGFBP5	IGFBP6	IGFBP7	LTA	MAPK1	MB
E	MIF	NF1	NGFB	NGFR	PAWR	PDGFA	PDGFRB	PGR	PLA2G1B	PLA2G2A	PLCG1	PPARD
F	PTCH1	PTEN	RAC1	RAG1	SEPP1	SHH	SIRT1	SPO11	SRD5A2	TGFA	TGFB1	TGFB11
G	TGFB2	TGFB3	TGFB3	TGM1	TNF	TNFRSF1B	TRAF4	TXNRD1	VDR	VEGFA	FGFR1	PAX3
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG021 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
QG021-01	A01	HQP021627	NM_003888	ALDH1A2
QG021-01	A02	HQP015964	NM_004324	BAX
QG021-01	A03	HQP009099	NM_001012270	BIRC5
QG021-01	A04	HQP017983	NM_001731	BTG1
QG021-01	A05	HQP018966	NM_001080124	CASP8
QG021-01	A06	HQP022955	NM_001250	CD40
QG021-01	A07	HQP003218	NM_004383	CSK
QG021-01	A08	HQP003488	NM_001901	CTGF
QG021-01	A09	HQP003539	NM_001904	CTNNB1
QG021-01	A10	HQP004524	NM_005225	E2F1
QG021-01	A11	HQP004528	NM_001950	E2F4
QG021-01	A12	HQP004557	NM_001955	EDN1
QG021-01	B01	HQP004559	NM_000114	EDN3
QG021-01	B02	HQP004564	NM_000115	EDNRB
QG021-01	B03	HQP004599	NM_001963	EGF
QG021-01	B04	HQP004605	NM_005228	EGFR
QG021-01	B05	HQP004968	NM_001005862	ERBB2
QG021-01	B06	HQP005001	NM_001040275	ESR2
QG021-01	B07	HQP005400	NM_000800	FGF1
QG021-01	B08	HQP005417	NM_004465	FGF10
QG021-01	B09	HQP005403	NM_002006	FGF2
QG021-01	B10	HQP005408	NM_004464	FGF5
QG021-01	B11	HQP005411	NM_002009	FGF7
QG021-01	B12	HQP005412	NM_006119	FGF8
QG021-01	C01	HQP005416	NM_002010	FGF9
QG021-01	C02	HQP005437	NM_000141	FGFR2
QG021-01	C03	HQP005434	NM_000142	FGFR3
QG021-01	C04	HQP005439	NM_002011	FGFR4
QG021-01	C05	HQP006188	NM_005252	FOS
QG021-01	C06	HQP005712	NM_021953	FOXM1
QG021-01	C07	HQP006930	NM_002045	GAP43
QG021-01	C08	HQP004493	NM_001945	HBEGF
QG021-01	C09	HQP008800	NM_000601	HGF
QG021-01	C10	HQP009026	NM_000194	HPRT1
QG021-01	C11	HQP000630	NM_006388	HTATIP
QG021-01	C12	HQP009518	NM_000618	IGF1
QG021-01	D01	HQP009523	NM_000875	IGF1R
QG021-01	D02	HQP009529	NM_000612	IGF2
QG021-01	D03	HQP009539	NM_000596	IGFBP1
QG021-01	D04	HQP009541	NM_000597	IGFBP2
QG021-01	D05	HQP009544	NM_000598	IGFBP3

Product Data Sheet

QG021-01	D06	HQP009548	NM_001552	IGFBP4
QG021-01	D07	HQP009551	NM_000599	IGFBP5
QG021-01	D08	HQP009555	NM_002178	IGFBP6
QG021-01	D09	HQP009558	NM_001553	IGFBP7
QG021-01	D10	HQP010907	NM_000595	LTA
QG021-01	D11	HQP014848	NM_002745	MAPK1
QG021-01	D12	HQP011071	NM_005368	MB
QG021-01	E01	HQP011219	NM_002415	MIF
QG021-01	E02	HQP011774	NM_000267	NF1
QG021-01	E03	HQP011827	NM_002506	NGFB
QG021-01	E04	HQP011828	NM_002507	NGFR
QG021-01	E05	HQP012197	NM_002583	PAWR
QG021-01	E06	HQP012847	NM_002607	PDGFA
QG021-01	E07	HQP012889	NM_002609	PDGFRB
QG021-01	E08	HQP013099	NM_000926	PGR
QG021-01	E09	HQP013193	NM_000928	PLA2G1B
QG021-01	E10	HQP013194	NM_000300	PLA2G2A
QG021-01	E11	HQP013238	NM_002660	PLCG1
QG021-01	E12	HQP013627	NM_006238	PPARD
QG021-01	F01	HQP015530	NM_000264	PTCH1
QG021-01	F02	HQP015535	NM_000314	PTEN
QG021-01	F03	HQP016063	NM_006908	RAC1
QG021-01	F04	HQP016089	NM_000448	RAG1
QG021-01	F05	HQP016819	NM_005410	SEPP1
QG021-01	F06	HQP017098	NM_000193	SHH
QG021-01	F07	HQP006080	NM_012238	SIRT1
QG021-01	F08	HQP006284	NM_012444	SPO11
QG021-01	F09	HQP017698	NM_000348	SRD5A2
QG021-01	F10	HQP018043	NM_003236	TGFA
QG021-01	F11	HQP018044	NM_000660	TGFB1
QG021-01	F12	HQP018045	NM_001042454	TGFB111
QG021-01	G01	HQP018047	NM_003238	TGFB2
QG021-01	G02	HQP018048	NM_003239	TGFB3
QG021-01	G03	HQP018051	NM_004612	TGFBR1
QG021-01	G04	HQP018060	NM_000359	TGM1
QG021-01	G05	HQP018141	NM_000594	TNF
QG021-01	G06	HQP018149	NM_001066	TNFRSF1B
QG021-01	G07	HQP022985	NM_004295	TRAF4
QG021-01	G08	HQP018336	NM_003330	TXNRD1
QG021-01	G09	HQP018474	NM_000376	VDR
QG021-01	G10	HQP018475	NM_001025366	VEGFA
QG021-01	G11	HQP005427	NM_015850	FGFR1
QG021-01	G12	HQP012204	NM_000438	PAX3
QG021-01	H01	HGDC		
QG021-01	H02	HGDC		
QG021-01	H03	HQP006940	NM_002046	GAPDH
QG021-01	H04	HQP016381	NM_001101	ACTB

Product Data Sheet

QG021-01	H05	HQP015171	NM_004048	B2M
QG021-01	H06	HQP006171	NM_012423	RPL13A
QG021-01	H07	HQP009026	NM_000194	HPRT1
QG021-01	H08	HQP054253	NR_003286	RN18S1
QG021-01	H09	RT		
QG021-01	H10	RT		
QG021-01	H11	PCR		
QG021-01	H12	PCR		

Limited Use License

Following terms and conditions apply to use of ExProfile™ Human Growth and Development 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.

Limited Warranty

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.

GeneCopoeia's liability does not extend to any damages arising from use or improper use of the Product, or losses associated with the use of additional materials or reagents. This limited warranty is the sole and exclusive warranty. GeneCopoeia does not provide any other warranties of any kind, expressed or implied, including the merchantability or fitness of the Product for a particular purpose.

GeneCopoeia is committed to providing our customers with high-quality products. If you should have any questions or concerns about any GeneCopoeia products, please contact us at 301-762-0888.

© 2016 GeneCopoeia, Inc.

GeneCopoeia, Inc.
9620 Medical Center Drive, Suite 101
Rockville, MD 20850
+1 (301) 762-0888
+1 (866) 360-9531
inquiry@genecopoeia.com

GeneCopoeia Products are for Research Use Only

Trademarks: GeneCopoeia™, ExProfile™, All-in-One™, (GeneCopoeia Inc.); RNAzol® RT (Molecular Research Center, Inc.); SYBR® (Molecular Probes); iCycler iQ®, MyiQ™, iQ™5, CFX96™, DNA Engine Opticon™, DNA Engine Opticon 2™, Chromo4™ (Bio-Rad); LightCycler® (Roche); Trizol™, ABI®, ROX®, ViiA™, StepOnePlus™ (Life Technologies).

Copyright © 2016 GeneCopoeia, Inc.

QG021-160202