

ExProfile™ Human PI3K-AKT Signaling Related Gene qPCR Array

For focused group profiling of human PI3K-AKT signaling related gene expression

Cat. No. QG047-A (1 x 96-well plate, Format A)

Cat. No. QG047-B (1 x 96-well plate, Format B)

Cat. No. QG047-C (1 x 96-well plate, Format C)

Cat. No. QG047-D (1 x 96-well plate, Format D)

Cat. No. QG047-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 PI3K-AKT signaling related gene qPCR array profiles the expression of 84 human genes related to PI3K-AKT signal transduction. These genes are carefully chosen for their close pathway correlation based on a thorough literature search of peer-reviewed publications. This array allows researchers to study pathway-related genes to gain understanding of their roles in the PI3K-AKT signaling pathway.

- QG047 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

GeneCopeia 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	ADAR	AKT1	AKT2	AKT3	APC	BAD	BTK	CASP9	CCND1	CD14	CDC42	CDKN1B
B	CHUK	CSNK2A1	CTNNB1	EIF2AK2	EIF4B	EIF4E	EIF4EBP1	ELK1	FASLG	FOS	FOXO1A	FOXO3A
C	FRAP1	GJA1	GRB10	GRB2	GSK3B	HRAS	HSPB1	IGF1	IGF1R	ILK	IRAK1	IRS1
D	ITGB1	JUN	MAP2K1	MAPK1	MAPK14	MAPK3	MAPK8	MTCP1	MYD88	NFKB1	NFKBIA	PAK1
E	PDGFRA	PDK1	PDK2	PDPK1	PIK3CA	PIK3CG	PIK3R1	PIK3R2	PRKCA	PRKCB1	PTEN	PTK2
F	PTPN11	RAC1	RAF1	RASA1	RBL2	RHEB	RHOA	RPS6KB1	SHC1	SOS1	TCL1A	TIRAP
G	TLR4	TOLLIP	TSC1	TSC2	WASL	YWHAH	ADAR	HPRT1	CASP9	CSNK2A1	EIF4G1	PRKCZ
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG047 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
QG047-01	A01	HQP000472	NM_001111	ADAR
QG047-01	A02	HQP054002	NM_005163	AKT1
QG047-01	A03	HQP004995	NM_001626	AKT2
QG047-01	A04	HQP000001	NM_005465	AKT3
QG047-01	A05	HQP009024	NM_000038	APC
QG047-01	A06	HQP015538	NM_004322	BAD
QG047-01	A07	HQP017988	NM_000061	BTK
QG047-01	A08	HQP020648	NM_001229	CASP9
QG047-01	A09	HQP016204	NM_053056	CCND1
QG047-01	A10	HQP022490	NM_000591	CD14
QG047-01	A11	HQP053981	NM_001791	CDC42
QG047-01	A12	HQP000342	NM_004064	CDKN1B
QG047-01	B01	HQP001708	NM_001278	CHUK
QG047-01	B02	HQP003277	NM_001895	CSNK2A1
QG047-01	B03	HQP003539	NM_001904	CTNNB1
QG047-01	B04	HQP014948	NM_002759	EIF2AK2
QG047-01	B05	HQP004674	NM_001417	EIF4B
QG047-01	B06	HQP004675	NM_001968	EIF4E
QG047-01	B07	HQP004676	NM_004095	EIF4EBP1
QG047-01	B08	HQP004749	NM_005229	ELK1
QG047-01	B09	HQP009671	NM_000639	FASLG
QG047-01	B10	HQP006188	NM_005252	FOS
QG047-01	B11	HQP005747	NM_002015	FOXO1A
QG047-01	B12	HQP005759	NM_001455	FOXO3A
QG047-01	C01	HQP006426	NM_004958	FRAP1
QG047-01	C02	HQP007411	NM_000165	GJA1
QG047-01	C03	HQP008296	NM_005311	GRB10
QG047-01	C04	HQP008291	NM_002086	GRB2
QG047-01	C05	HQP054075	NM_002093	GSK3B
QG047-01	C06	HQP009036	NM_005343	HRAS
QG047-01	C07	HQP009089	NM_001540	HSPB1
QG047-01	C08	HQP009518	NM_000618	IGF1
QG047-01	C09	HQP009523	NM_000875	IGF1R
QG047-01	C10	HQP053997	NM_004517	ILK
QG047-01	C11	HQP009773	NM_001569	IRAK1
QG047-01	C12	HQP009788	NM_005544	IRS1
QG047-01	D01	HQP009810	NM_002211	ITGB1
QG047-01	D02	HQP009853	NM_002228	JUN
QG047-01	D03	HQP014907	NM_002755	MAP2K1
QG047-01	D04	HQP014848	NM_002745	MAPK1
QG047-01	D05	HQP003133	NM_001315	MAPK14

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QG047-01	D06	HQP014855	NM_002746	MAPK3
QG047-01	D07	HQP014886	NM_002750	MAPK8
QG047-01	D08	HQP011542	NM_001018025	MTCP1
QG047-01	D09	HQP011603	NM_002468	MYD88
QG047-01	D10	HQP011807	NM_003998	NFKB1
QG047-01	D11	HQP011810	NM_020529	NFKBIA
QG047-01	D12	HQP012156	NM_002576	PAK1
QG047-01	E01	HQP012866	NM_006206	PDGFRA
QG047-01	E02	HQP012923	NM_002610	PDK1
QG047-01	E03	HQP012931	NM_002611	PDK2
QG047-01	E04	HQP012979	NM_002613	PDPK1
QG047-01	E05	HQP013150	NM_006218	PIK3CA
QG047-01	E06	HQP013154	NM_002649	PIK3CG
QG047-01	E07	HQP013155	NM_181504	PIK3R1
QG047-01	E08	HQP013158	NM_005027	PIK3R2
QG047-01	E09	HQP014706	NM_002737	PRKCA
QG047-01	E10	HQP014718	NM_002738	PRKCB1
QG047-01	E11	HQP015535	NM_000314	PTEN
QG047-01	E12	HQP015639	NM_005607	PTK2
QG047-01	F01	HQP015878	NM_002834	PTPN11
QG047-01	F02	HQP016063	NM_006908	RAC1
QG047-01	F03	HQP016088	NM_002880	RAF1
QG047-01	F04	HQP016125	NM_002890	RASA1
QG047-01	F05	HQP016172	NM_005611	RBL2
QG047-01	F06	HQP016276	NM_005614	RHEB
QG047-01	F07	HQP010229	NM_001664	RHOA
QG047-01	F08	HQP016471	NM_003161	RPS6KB1
QG047-01	F09	HQP017080	NM_003029	SHC1
QG047-01	F10	HQP017625	NM_005633	SOS1
QG047-01	F11	HQP019839	NM_021966	TCL1A
QG047-01	F12	HQP001674	NM_001039661	TIRAP
QG047-01	G01	HQP018116	NM_138554	TLR4
QG047-01	G02	HQP013496	NM_019009	TOLLIP
QG047-01	G03	HQP018263	NM_000368	TSC1
QG047-01	G04	HQP018265	NM_000548	TSC2
QG047-01	G05	HQP021768	NM_003941	WASL
QG047-01	G06	HQP018575	NM_003405	YWHAH
QG047-01	G07	HQP000471	NM_001025107	ADAR
QG047-01	G08	HQP009026	NM_000194	HPRT1
QG047-01	G09	HQP020649	NM_032996	CASP9
QG047-01	G10	HQP003278	NM_177560	CSNK2A1
QG047-01	G11	HQP004679	NM_004953	EIF4G1
QG047-01	G12	HQP014829	NM_001033581	PRKCZ
QG047-01	H01	HGDC		
QG047-01	H02	HGDC		
QG047-01	H03	HQP006940	NM_002046	GAPDH
QG047-01	H04	HQP016381	NM_001101	ACTB

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QG047-01	H05	HQP015171	NM_004048	B2M
QG047-01	H06	HQP006171	NM_012423	RPL13A
QG047-01	H07	HQP009026	NM_000194	HPRT1
QG047-01	H08	HQP054253	NR_003286	RN18S1
QG047-01	H09	RT		
QG047-01	H10	RT		
QG047-01	H11	PCR		
QG047-01	H12	PCR		

Limited Use License

Following terms and conditions apply to use of ExProfile™ Human PI3K-AKT Signaling 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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