

ExProfile™ Human cAMP/Ca²⁺ Signaling Related Gene qPCR Array

For focused group profiling of human cAMP/Ca²⁺ signaling genes expression

Cat. No. QG009-A (1 x 96-well plate, Format A)

Cat. No. QG009-B (1 x 96-well plate, Format B)

Cat. No. QG009-C (1 x 96-well plate, Format C)

Cat. No. QG009-D (1 x 96-well plate, Format D)

Cat. No. QG009-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 cAMP/Ca²⁺ signaling related gene qPCR array profiles the expression of 84 human genes related to cAMP/Ca²⁺-dependent signal transduction. These genes are carefully chosen for their close pathway correlation based on a thorough literature search of peer-reviewed publications, mainly including genes that are responsive to cAMP or Ca²⁺. This array allows researchers to study the pathway-related genes to gain understanding of their roles in the cAMP/Ca²⁺-dependent signal pathway.

- QG009 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

GeneCopeia 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	PCK2	HPRT1	VIP	TNF	THBS1	TH	TGFB3	TACR1	STAT3	SSTR2	SST	SRF
B	SOD2	SLC18A1	SGK	SCG2	S100A6	S100A12	RB1	PTGS2	PRL	PRKAR1A	PPP2CA	PPP1R15A
C	POU2AF1	PLN	PLAT	PCNA	PCK2	NR4A2	NPY	NOS2A	NF1	MIF	MAF	LDHA
D	KCNA5	JUNB	INHBA	IL6	IL2	HSPA5	HSPA4	HK2	GIPR	GEM	GCG	FOS
E	ENO2	EGR2	EGR1	DUSP1	DDIT3	CTF1	CREM	CREB1	CNN1	CHGA	CGA	CDK5
F	CCND1	CCNA1	CALR	CALM1	CALB1	BRCA1	BCL2	ATF3	AREG	AMD1	AHR	ADRB1
G	FGF6	FOSB	PENK	PMAIP1	POU1F1	BDNF	CALB2	CDKN2B	JUND	NCAM1	PER1	VCL
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG009 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
QG009-01	A01	HQP012353	NM_001018073	PCK2
QG009-01	A02	HQP009026	NM_000194	HPRT1
QG009-01	A03	HQP018490	NM_003381	VIP
QG009-01	A04	HQP018141	NM_000594	TNF
QG009-01	A05	HQP018068	NM_003246	THBS1
QG009-01	A06	HQP018064	NM_000360	TH
QG009-01	A07	HQP018048	NM_003239	TGFB3
QG009-01	A08	HQP017867	NM_001058	TACR1
QG009-01	A09	HQP017767	NM_003150	STAT3
QG009-01	A10	HQP017744	NM_001050	SSTR2
QG009-01	A11	HQP053963	NM_001048	SST
QG009-01	A12	HQP017706	NM_003131	SRF
QG009-01	B01	HQP017616	NM_000636	SOD2
QG009-01	B02	HQP017478	NM_003053	SLC18A1
QG009-01	B03	HQP017005	NM_005627	SGK
QG009-01	B04	HQP018805	NM_003469	SCG2
QG009-01	B05	HQP016542	NM_014624	S100A6
QG009-01	B06	HQP016551	NM_005621	S100A12
QG009-01	B07	HQP016131	NM_000321	RB1
QG009-01	B08	HQP015598	NM_000963	PTGS2
QG009-01	B09	HQP015024	NM_000948	PRL
QG009-01	B10	HQP014650	NM_002734	PRKAR1A
QG009-01	B11	HQP014115	NM_002715	PPP2CA
QG009-01	B12	HQP006298	NM_014330	PPP1R15A
QG009-01	C01	HQP013528	NM_006235	POU2AF1
QG009-01	C02	HQP013268	NM_002667	PLN
QG009-01	C03	HQP013201	NM_000930	PLAT
QG009-01	C04	HQP054038	NM_182649	PCNA
QG009-01	C05	HQP012354	NM_004563	PCK2
QG009-01	C06	HQP011968	NM_006186	NR4A2
QG009-01	C07	HQP011874	NM_000905	NPY
QG009-01	C08	HQP011866	NM_000625	NOS2A
QG009-01	C09	HQP011774	NM_000267	NF1
QG009-01	C10	HQP011219	NM_002415	MIF
QG009-01	C11	HQP010969	NM_005360	MAF
QG009-01	C12	HQP010571	NM_005566	LDHA

QG009-01	D01	HQP009873	NM_002234	KCNA5
QG009-01	D02	HQP009854	NM_002229	JUNB
QG009-01	D03	HQP009743	NM_002192	INHBA
QG009-01	D04	HQP009670	NM_000600	IL6
QG009-01	D05	HQP009649	NM_000586	IL2
QG009-01	D06	HQP009083	NM_005347	HSPA5
QG009-01	D07	HQP009081	NM_002154	HSPA4
QG009-01	D08	HQP008843	NM_000189	HK2
QG009-01	D09	HQP007408	NM_000164	GIPR
QG009-01	D10	HQP007353	NM_005261	GEM
QG009-01	D11	HQP007233	NM_002054	GCG
QG009-01	D12	HQP006188	NM_005252	FOS
QG009-01	E01	HQP004864	NM_001975	ENO2
QG009-01	E02	HQP004613	NM_000399	EGR2
QG009-01	E03	HQP004612	NM_001964	EGR1
QG009-01	E04	HQP004498	NM_004417	DUSP1
QG009-01	E05	HQP004127	NM_004083	DDIT3
QG009-01	E06	HQP003479	NM_001330	CTF1
QG009-01	E07	HQP002950	NM_183011	CREM
QG009-01	E08	HQP002907	NM_004379	CREB1
QG009-01	E09	HQP002384	NM_001299	CNN1
QG009-01	E10	HQP001309	NM_001275	CHGA
QG009-01	E11	HQP000956	NM_000735	CGA
QG009-01	E12	HQP000261	NM_004935	CDK5
QG009-01	F01	HQP016204	NM_053056	CCND1
QG009-01	F02	HQP021692	NM_003914	CCNA1
QG009-01	F03	HQP019841	NM_004343	CALR
QG009-01	F04	HQP019580	NM_006888	CALM1
QG009-01	F05	HQP019024	NM_004929	CALB1
QG009-01	F06	HQP017713	NM_007294	BRCA1
QG009-01	F07	HQP016211	NM_000633	BCL2
QG009-01	F08	HQP053980	NM_001674	ATF3
QG009-01	F09	HQP009941	NM_001657	AREG
QG009-01	F10	HQP007213	NM_001634	AMD1
QG009-01	F11	HQP004658	NM_001621	AHR
QG009-01	F12	HQP003754	NM_000684	ADRB1
QG009-01	G01	HQP005410	NM_020996	FGF6
QG009-01	G02	HQP006205	NM_006732	FOSB
QG009-01	G03	HQP013033	NM_006211	PENK
QG009-01	G04	HQP013296	NM_021127	PMAIP1
QG009-01	G05	HQP013519	NM_000306	POU1F1

QG009-01	G06	HQP016545	NM_001709	BDNF
QG009-01	G07	HQP019049	NM_001740	CALB2
QG009-01	G08	HQP000382	NM_004936	CDKN2B
QG009-01	G09	HQP009855	NM_005354	JUND
QG009-01	G10	HQP011688	NM_000615	NCAM1
QG009-01	G11	HQP013046	NM_002616	PER1
QG009-01	G12	HQP018467	NM_003373	VCL
QG009-01	H01	HGDC		
QG009-01	H02	HGDC		
QG009-01	H03	HQP006940	NM_002046	GAPDH
QG009-01	H04	HQP016381	NM_001101	ACTB
QG009-01	H05	HQP015171	NM_004048	B2M
QG009-01	H06	HQP006171	NM_012423	RPL13A
QG009-01	H07	HQP009026	NM_000194	HPRT1
QG009-01	H08	HQP054253	NR_003286	RN18S1
QG009-01	H09	RT		
QG009-01	H10	RT		
QG009-01	H11	PCR		
QG009-01	H12	PCR		

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Following terms and conditions apply to use of ExProfile™ Human cAMP/Ca²⁺ 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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