ExProfile™ Human Cell Cycle Related Gene qPCR Array

For focused group profiling of human cell cycle genes expression

Cat. No. QG006-A (1 x 96-well plate, Format A)
Cat. No. QG006-B (1 x 96-well plate, Format B)
Cat. No. QG006-C (1 x 96-well plate, Format C)
Cat. No. QG006-D (1 x 96-well plate, Format D)
Cat. No. QG006-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 cell cycle related gene qPCR array profiles the expression of 84 human genes related to cell cycle regulation. These genes are carefully chosen for their close pathway correlation based on a thorough literature search of peer-reviewed publications, mainly including genes involved in cell cycle regulation, cell cycle checkpoints and arrest, transitions between each cell cycle phases. This array allows researchers to study the pathway-related genes to gain understanding of their roles in the regulation of the cell cycle.

- QG006 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	HPRT1	UBE1	TP53	TFDP2	TFDP1	SUMO1	SKP2	SERTAD1	RPA3	RBL2	RBL1	RBBP8
B	RB1	RAD51	RAD17	RAD1	PCNA	NBN	MRE11A	MNAT1	MKI67	MCM5	MCM4	MCM3
C	MCM2	MAD2L2	MAD2L1	KPNA2	KNTC1	HUS1	GTSE1	GTF2H1	GADD45A	E2F4	DNM2	DDX11
D	CUL3	CUL2	CUL1	CKS2	CKS1B	CHEK1	CDKN3	CDKN2A	CDKN1B	CDKN1A	CDK7	CDK6
E	CDK5RAP1	CDK5R1	CDK4	CDK2	CDC34	CDC20	CDC2	CDC16	CCNH	CCNG2	CCNG1	CCNF
F	CCNE1	CCND2	CCND1	CCNB2	CCNB1	BRCA2	BRCA1	BIRC5	BCL2	BCCIP	BAX	ATR
G	ATM	ANAPC2	ABL1	DIRAS3	ANAPC4	CCNC	CCNT2	CDK8	CDKN2B	CHEK2	BRCA1	ATM
H	**HGDC**	**HGDC**	**GAPDH**	**ACTB**	**B2M**	**RPL13A**	**HPRT1**	**RN18S1**	**RT**	**RT**	**PCR**	**PCR**

Figure1. Illustration of QG006 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
QG006-01	A01	HQP009026	NM_000194	HPRT1
QG006-01	A02	HQP018357	NM_003334	UBE1
QG006-01	A03	HQP018175	NM_000546	TP53
QG006-01	A04	HQP018033	NM_006286	TFDP2
QG006-01	A05	HQP018032	NM_007111	TFDP1
QG006-01	A06	HQP053990	NM_003352	SUMO1
QG006-01	A07	HQP017300	NM_005983	SKP2
QG006-01	A08	HQP008623	NM_013376	SERTAD1
QG006-01	A09	HQP016391	NM_002947	RPA3
QG006-01	A10	HQP016172	NM_005611	RBL2
QG006-01	A11	HQP016160	NM_002895	RBL1
QG006-01	A12	HQP016155	NM_002894	RBBP8
QG006-01	B01	HQP016131	NM_000321	RB1
QG006-01	B02	HQP016077	NM_002875	RAD51
QG006-01	B03	HQP016070	NM_002873	RAD17
QG006-01	B04	HQP015947	NM_002853	RAD1
QG006-01	B05	HQP054038	NM_182649	PCNA
QG006-01	B06	HQP011687	NM_002485	NBN
QG006-01	B07	HQP011320	NM_005590	MRE11A
QG006-01	B08	HQP011278	NM_002431	MNAT1
QG006-01	B09	HQP011232	NM_002417	MKI67
QG006-01	B10	HQP011109	NM_006739	MCM5
QG006-01	B11	HQP011108	NM_005914	MCM4
QG006-01	B12	HQP011107	NM_002388	MCM3
QG006-01	C01	HQP011106	NM_004526	MCM2
QG006-01	C02	HQP000552	NM_006341	MAD2L2
QG006-01	C03	HQP010957	NM_002358	MAD2L1
QG006-01	C04	HQP010125	NM_002266	KPNA2
QG006-01	C05	HQP023139	NM_014708	KNTC1
QG006-01	C06	HQP009138	NM_004507	HUS1
QG006-01	C07	HQP012794	NM_016426	GTSE1
QG006-01	C08	HQP008502	NM_005316	GTF2H1
QG006-01	C09	HQP004125	NM_001924	GADD45A
QG006-01	C10	HQP004528	NM_001950	E2F4
QG006-01	C11	HQP004406	NM_004945	DNM2
QG006-01	C12	HQP004162	NM_004399	DDX11
QG006-01	D01	HQP020782	NM_003590	CUL3

QG006-01	D02	HQP020788	NM_003591	CUL2
QG006-01	D03	HQP020798	NM_003592	CUL1
QG006-01	D04	HQP001894	NM_001827	CKS2
QG006-01	D05	HQP001884	NM_001826	CKS1B
QG006-01	D06	HQP001282	NM_001274	CHEK1
QG006-01	D07	HQP000418	NM_005192	CDKN3
QG006-01	D08	HQP000369	NM_000077	CDKN2A
QG006-01	D09	HQP000342	NM_004064	CDKN1B
QG006-01	D10	HQP000331	NM_000389	CDKN1A
QG006-01	D11	HQP000285	NM_001799	CDK7
QG006-01	D12	HQP000274	NM_001259	CDK6
QG006-01	E01	HQP012938	NM_016408	CDK5RAP1
QG006-01	E02	HQP021622	NM_003885	CDK5R1
QG006-01	E03	HQP000245	NM_000075	CDK4
QG006-01	E04	HQP000225	NM_001798	CDK2
QG006-01	E05	HQP023443	NM_004359	CDC34
QG006-01	E06	HQP023365	NM_001255	CDC20
QG006-01	E07	HQP023261	NM_001786	CDC2
QG006-01	E08	HQP053993	NM_003903	CDC16
QG006-01	E09	HQP021906	NM_001239	CCNH
QG006-01	E10	HQP021882	NM_004354	CCNG2
QG006-01	E11	HQP021857	NM_004060	CCNG1
QG006-01	E12	HQP021842	NM_001761	CCNF
QG006-01	F01	HQP021819	NM_001238	CCNE1
QG006-01	F02	HQP021754	NM_001759	CCND2
QG006-01	F03	HQP016204	NM_053056	CCND1
QG006-01	F04	HQP022141	NM_004701	CCNB2
QG006-01	F05	HQP021727	NM_031966	CCNB1
QG006-01	F06	HQP017753	NM_000059	BRCA2
QG006-01	F07	HQP017713	NM_007294	BRCA1
QG006-01	F08	HQP009101	NM_001168	BIRC5
QG006-01	F09	HQP016211	NM_000633	BCL2
QG006-01	F10	HQP015124	NM_016567	BCCIP
QG006-01	F11	HQP015964	NM_004324	BAX
QG006-01	F12	HQP013596	NM_001184	ATR
QG006-01	G01	HQP011736	NM_000051	ATM
QG006-01	G02	HQP008560	NM_013366	ANAPC2
QG006-01	G03	HQP006954	NM_005157	ABL1
QG006-01	G04	HQP022027	NM_004675	DIRAS3
QG006-01	G05	HQP008614	NM_013367	ANAPC4
QG006-01	G06	HQP021735	NM_005190	CCNC

QG006-01	G07	HQP021991	NM_001241	CCNT2
QG006-01	G08	HQP000312	NM_001260	CDK8
QG006-01	G09	HQP000382	NM_004936	CDKN2B
QG006-01	G10	HQP001397	NM_007194	CHEK2
QG006-01	G11	HQP017714	NM_007297	BRCA1
QG006-01	G12	HQP011737	NM_138292	ATM
QG006-01	H01	HGDC		
QG006-01	H02	HGDC		
QG006-01	H03	HQP006940	NM_002046	GAPDH
QG006-01	H04	HQP016381	NM_001101	ACTB
QG006-01	H05	HQP015171	NM_004048	B2M
QG006-01	H06	HQP006171	NM_012423	RPL13A
QG006-01	H07	HQP009026	NM_000194	HPRT1
QG006-01	H08	HQP054253	NR_003286	RN18S1
QG006-01	H09	RT		
QG006-01	H10	RT		
QG006-01	H11	PCR		
QG006-01	H12	PCR		

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Following terms and conditions apply to use of ExProfile™ Human Cell Cycle 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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