

ExProfile™ Human MAP Kinase Signaling Related Gene qPCR Array

For focused group profiling of human MAP kinase signaling genes expression

Cat. No. QG038-A (1 x 96-well plate, Format A)

Cat. No. QG038-B (1 x 96-well plate, Format B)

Cat. No. QG038-C (1 x 96-well plate, Format C)

Cat. No. QG038-D (1 x 96-well plate, Format D)

Cat. No. QG038-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 MAP kinase signaling related gene qPCR array profiles the expression of 84 human genes related to MAP kinase signaling pathway. These genes are carefully chosen for their close correlation based on a thorough literature search of peer-reviewed publications, include members of the MKKK, MKK, and MAPK families, transcription factors and genes whose expression is induced by MAP kinase signaling, as well as other related molecules or genes. This array allows researchers to study the related genes to gain understanding of their roles in MAP kinase signaling pathway.

- QG038 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 °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	RAC1	HPRT1	TP53	SMAD4	SFN	RB1	RAF1	RAC1	PRDX6	PAK1	NRAS	NFATC4
B	MYC	MOS	MKNK1	MEF2C	MAPKAPK3	MAPK9	MAPK8IP2	MAPK8	MAPK6	MAPK3	MAPK14	MAPK13
C	MAPK11	MAPK10	MAPK1	MAP3K4	MAP3K3	MAP3K2	MAP3K1	MAP2K7	MAP2K6	MAP2K5	MAP2K4	MAP2K3
D	MAP2K2	MAP2K1IP1	MAP2K1	KSR1	JUN	HSPB1	HSPA5	HRAS	GRB2	FOS	ETS2	ETS1
E	ELK1	EGR1	EGFR	E2F1	DLK1	CREBBP	CREB1	COL1A1	CHUK	CDKN2D	CDKN2A	CDKN1C
F	CDKN1B	CDKN1A	CDK6	CDK4	CDK2	CDC42	CCNE1	CCND3	CCND2	CCND1	CCNB2	CCNB1
G	CCNA2	CCNA1	BRAF	ATF2	ARAF	CDKN2B	CDKN2C	MAP4K1	EGFR	MAPK7	MAPKAPK2	MAX
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG038 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
QG038-01	A01	HQP016064	NM_018890	RAC1
QG038-01	A02	HQP009026	NM_000194	HPRT1
QG038-01	A03	HQP018175	NM_000546	TP53
QG038-01	A04	HQP010961	NM_005359	SMAD4
QG038-01	A05	HQP007802	NM_006142	SFN
QG038-01	A06	HQP016131	NM_000321	RB1
QG038-01	A07	HQP016088	NM_002880	RAF1
QG038-01	A08	HQP016063	NM_006908	RAC1
QG038-01	A09	HQP022952	NM_004905	PRDX6
QG038-01	A10	HQP012156	NM_002576	PAK1
QG038-01	A11	HQP011914	NM_002524	NRAS
QG038-01	A12	HQP011796	NM_004554	NFATC4
QG038-01	B01	HQP011597	NM_002467	MYC
QG038-01	B02	HQP011299	NM_005372	MOS
QG038-01	B03	HQP021299	NM_003684	MKNK1
QG038-01	B04	HQP011151	NM_002397	MEF2C
QG038-01	B05	HQP018812	NM_004635	MAPKAPK3
QG038-01	B06	HQP014896	NM_002752	MAPK9
QG038-01	B07	HQP006190	NM_012324	MAPK8IP2
QG038-01	B08	HQP014886	NM_002750	MAPK8
QG038-01	B09	HQP014876	NM_002748	MAPK6
QG038-01	B10	HQP014855	NM_002746	MAPK3
QG038-01	B11	HQP003133	NM_001315	MAPK14
QG038-01	B12	HQP014906	NM_002754	MAPK13
QG038-01	C01	HQP014895	NM_002751	MAPK11
QG038-01	C02	HQP014900	NM_002753	MAPK10
QG038-01	C03	HQP014848	NM_002745	MAPK1
QG038-01	C04	HQP011166	NM_005922	MAP3K4
QG038-01	C05	HQP011164	NM_002401	MAP3K3
QG038-01	C06	HQP000881	NM_006609	MAP3K2
QG038-01	C07	HQP053966	NM_005921	MAP3K1
QG038-01	C08	HQP014926	NM_145185	MAP2K7
QG038-01	C09	HQP014919	NM_002758	MAP2K6
QG038-01	C10	HQP014917	NM_002757	MAP2K5
QG038-01	C11	HQP016830	NM_003010	MAP2K4
QG038-01	C12	HQP014914	NM_002756	MAP2K3
QG038-01	D01	HQP014909	NM_030662	MAP2K2
QG038-01	D02	HQP021392	NM_021970	MAP2K1IP1
QG038-01	D03	HQP014907	NM_002755	MAP2K1
QG038-01	D04	HQP021615	NM_014238	KSR1

QG038-01	D05	HQP009853	NM_002228	JUN
QG038-01	D06	HQP009089	NM_001540	HSPB1
QG038-01	D07	HQP009083	NM_005347	HSPA5
QG038-01	D08	HQP009036	NM_005343	HRAS
QG038-01	D09	HQP008291	NM_002086	GRB2
QG038-01	D10	HQP006188	NM_005252	FOS
QG038-01	D11	HQP005015	NM_005239	ETS2
QG038-01	D12	HQP005014	NM_005238	ETS1
QG038-01	E01	HQP004749	NM_005229	ELK1
QG038-01	E02	HQP004612	NM_001964	EGR1
QG038-01	E03	HQP004605	NM_005228	EGFR
QG038-01	E04	HQP004524	NM_005225	E2F1
QG038-01	E05	HQP021547	NM_003836	DLK1
QG038-01	E06	HQP002921	NM_004380	CREBBP
QG038-01	E07	HQP002907	NM_004379	CREB1
QG038-01	E08	HQP002462	NM_000088	COL1A1
QG038-01	E09	HQP001708	NM_001278	CHUK
QG038-01	E10	HQP000408	NM_001800	CDKN2D
QG038-01	E11	HQP000369	NM_000077	CDKN2A
QG038-01	E12	HQP000356	NM_000076	CDKN1C
QG038-01	F01	HQP000342	NM_004064	CDKN1B
QG038-01	F02	HQP000331	NM_000389	CDKN1A
QG038-01	F03	HQP000274	NM_001259	CDK6
QG038-01	F04	HQP000245	NM_000075	CDK4
QG038-01	F05	HQP000225	NM_001798	CDK2
QG038-01	F06	HQP053981	NM_001791	CDC42
QG038-01	F07	HQP021819	NM_001238	CCNE1
QG038-01	F08	HQP021757	NM_001760	CCND3
QG038-01	F09	HQP021754	NM_001759	CCND2
QG038-01	F10	HQP016204	NM_053056	CCND1
QG038-01	F11	HQP022141	NM_004701	CCNB2
QG038-01	F12	HQP021727	NM_031966	CCNB1
QG038-01	G01	HQP021701	NM_001237	CCNA2
QG038-01	G02	HQP021692	NM_003914	CCNA1
QG038-01	G03	HQP017733	NM_004333	BRAF
QG038-01	G04	HQP002912	NM_001880	ATF2
QG038-01	G05	HQP009832	NM_001654	ARAF
QG038-01	G06	HQP000382	NM_004936	CDKN2B
QG038-01	G07	HQP053904	NM_078626	CDKN2C
QG038-01	G08	HQP001372	NM_007181	MAP4K1
QG038-01	G09	HQP004606	NM_201282	EGFR
QG038-01	G10	HQP014877	NM_002749	MAPK7
QG038-01	G11	HQP022425	NM_004759	MAPKAPK2
QG038-01	G12	HQP011059	NM_002382	MAX
QG038-01	H01	HGDC		
QG038-01	H02	HGDC		

QG038-01	H03	HQP006940	NM_002046	GAPDH
QG038-01	H04	HQP016381	NM_001101	ACTB
QG038-01	H05	HQP015171	NM_004048	B2M
QG038-01	H06	HQP006171	NM_012423	RPL13A
QG038-01	H07	HQP009026	NM_000194	HPRT1
QG038-01	H08	HQP054253	NR_003286	RN18S1
QG038-01	H09	RT		
QG038-01	H10	RT		
QG038-01	H11	PCR		
QG038-01	H12	PCR		

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