

ExProfile™ Human Autophagy Related Gene qPCR Array

For focused group profiling of human autophagy genes expression

Cat. No. QG001-A (1 x 96-well plate, Format A)

Cat. No. QG001-B (1 x 96-well plate, Format B)

Cat. No. QG001-C (1 x 96-well plate, Format C)

Cat. No. QG001-D (1 x 96-well plate, Format D)

Cat. No. QG001-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 autophagy related gene qPCR array profiles the expression of 84 human genes related to autophagy. These genes are carefully chosen for their close correlation based on a thorough literature search of peer-reviewed publications, mainly including genes that encode various molecules involved in regulating autophagy in response to the extracellular or intracellular signal. This array allows researchers to study the related genes to gain understanding of their roles in the functioning and characterization of autophagy.

- QG001 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	XPO1	WIP1	WDFY3	UVRAG	ULK1	TP53	TNFRSF10A	TNF	TMEM166	TLR9	TLR8	TLR7
B	TLR3	TGM2	SQSTM1	SNCA	RHEB	RAB7A	PSEN1	PRKG2	PRKCA	PRKAA2	PLG	PIK3R4
C	PIK3C3	PDGFB	PDGFA	OLR1	NFKB1	MAPK1	MAP1LC3B	LAMP2	KIAA0404	IGF1	IFNG	HDAC6
D	HD	GOPC	GNAI3	GHRH	GABARAPL2	GABARAPL1	GABARAP	FRAP1	FADD	EIF4EBP1	EIF2S1	EIF2AK2
E	EEF2K	DYSF	DRAM	DAPK2	DAPK1	CXCR4	CENTD3	CDKN1B	CASP8	CAPN1	C14orf103	BNIP3
F	BECN1	BCL2	BAX	BAK1	ATG9B	ATG9A	ATG7	ATG5	ATG4D	ATG4C	ATG4B	ATG16L1
G	ATG12	ATG10	ANKFY1	AKT1	MAP1LC3A	ATG4A	CAPNS1	CLN3	CTSA	GPSM1	ICAM5	PMP22
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG001 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
QG001-01	A01	HQP018561	NM_003400	XPO1
QG001-01	A02	HQP014016	NM_017983	WIPI1
QG001-01	A03	HQP005656	NM_014991	WDFY3
QG001-01	A04	HQP018457	NM_003369	UVRAG
QG001-01	A05	HQP020476	NM_003565	ULK1
QG001-01	A06	HQP018175	NM_000546	TP53
QG001-01	A07	HQP021557	NM_003844	TNFRSF10A
QG001-01	A08	HQP018141	NM_000594	TNF
QG001-01	A09	HQP020506	NM_032181	TMEM166
QG001-01	A10	HQP013388	NM_017442	TLR9
QG001-01	A11	HQP012624	NM_016610	TLR8
QG001-01	A12	HQP012591	NM_016562	TLR7
QG001-01	B01	HQP018115	NM_003265	TLR3
QG001-01	B02	HQP018061	NM_004613	TGM2
QG001-01	B03	HQP021660	NM_003900	SQSTM1
QG001-01	B04	HQP017582	NM_000345	SNCA
QG001-01	B05	HQP016276	NM_005614	RHEB
QG001-01	B06	HQP018819	NM_004637	RAB7A
QG001-01	B07	HQP015123	NM_000021	PSEN1
QG001-01	B08	HQP014847	NM_006259	PRKG2
QG001-01	B09	HQP014706	NM_002737	PRKCA
QG001-01	B10	HQP014541	NM_006252	PRKAA2
QG001-01	B11	HQP013257	NM_000301	PLG
QG001-01	B12	HQP008817	NM_014602	PIK3R4
QG001-01	C01	HQP013147	NM_002647	PIK3C3
QG001-01	C02	HQP012856	NM_002608	PDGFB
QG001-01	C03	HQP012847	NM_002607	PDGFA
QG001-01	C04	HQP012035	NM_002543	OLR1
QG001-01	C05	HQP011807	NM_003998	NFKB1
QG001-01	C06	HQP014848	NM_002745	MAPK1
QG001-01	C07	HQP019948	NM_022818	MAP1LC3B
QG001-01	C08	HQP010540	NM_002294	LAMP2
QG001-01	C09	HQP005783	NM_015104	KIAA0404
QG001-01	C10	HQP009518	NM_000618	IGF1
QG001-01	C11	HQP009467	NM_000619	IFNG
QG001-01	C12	HQP000022	NM_006044	HDAC6
QG001-01	D01	HQP008744	NM_002111	HD

QG001-01	D02	HQP015413	NM_001017408	GOPC
QG001-01	D03	HQP007749	NM_006496	GNAI3
QG001-01	D04	HQP007396	NM_021081	GHRH
QG001-01	D05	HQP001612	NM_007285	GABARAPL2
QG001-01	D06	HQP006323	NM_031412	GABARAPL1
QG001-01	D07	HQP001592	NM_007278	GABARAP
QG001-01	D08	HQP006426	NM_004958	FRAP1
QG001-01	D09	HQP021526	NM_003824	FADD
QG001-01	D10	HQP004676	NM_004095	EIF4EBP1
QG001-01	D11	HQP004643	NM_004094	EIF2S1
QG001-01	D12	HQP014948	NM_002759	EIF2AK2
QG001-01	E01	HQP008578	NM_013302	EEF2K
QG001-01	E02	HQP020095	NM_003494	DYSF
QG001-01	E03	HQP014337	NM_018370	DRAM
QG001-01	E04	HQP006265	NM_014326	DAPK2
QG001-01	E05	HQP003979	NM_004938	DAPK1
QG001-01	E06	HQP018802	NM_001008540	CXCR4
QG001-01	E07	HQP016971	NM_022481	CENTD3
QG001-01	E08	HQP000342	NM_004064	CDKN1B
QG001-01	E09	HQP018966	NM_001080124	CASP8
QG001-01	E10	HQP020065	NM_005186	CAPN1
QG001-01	E11	HQP014052	NM_018036	C14orf103
QG001-01	E12	HQP017619	NM_004052	BNIP3
QG001-01	F01	HQP021429	NM_003766	BECN1
QG001-01	F02	HQP016211	NM_000633	BCL2
QG001-01	F03	HQP015964	NM_004324	BAX
QG001-01	F04	HQP015917	NM_001188	BAK1
QG001-01	F05	HQP008198	NM_173681	ATG9B
QG001-01	F06	HQP018893	NM_001077198	ATG9A
QG001-01	F07	HQP000641	NM_006395	ATG7
QG001-01	F08	HQP022804	NM_004849	ATG5
QG001-01	F09	HQP021086	NM_032885	ATG4D
QG001-01	F10	HQP021051	NM_032852	ATG4C
QG001-01	F11	HQP005850	NM_013325	ATG4B
QG001-01	F12	HQP014009	NM_017974	ATG16L1
QG001-01	G01	HQP022168	NM_004707	ATG12
QG001-01	G02	HQP020313	NM_031482	ATG10
QG001-01	G03	HQP012771	NM_016376	ANKFY1
QG001-01	G04	HQP004991	NM_001014431	AKT1
QG001-01	G05	HQP020801	NM_032514	MAP1LC3A
QG001-01	G06	HQP001777	NM_052936	ATG4A

QG001-01	G07	HQP020082	NM_001003962	CAPNS1
QG001-01	G08	HQP002081	NM_000086	CLN3
QG001-01	G09	HQP013686	NM_000308	CTSA
QG001-01	G10	HQP007025	NM_015597	GPSM1
QG001-01	G11	HQP018103	NM_003259	ICAM5
QG001-01	G12	HQP013311	NM_000304	PMP22
QG001-01	H01	HGDC		
QG001-01	H02	HGDC		
QG001-01	H03	HQP006940	NM_002046	GAPDH
QG001-01	H04	HQP016381	NM_001101	ACTB
QG001-01	H05	HQP015171	NM_004048	B2M
QG001-01	H06	HQP006171	NM_012423	RPL13A
QG001-01	H07	HQP009026	NM_000194	HPRT1
QG001-01	H08	HQP054253	NR_003286	RN18S1
QG001-01	H09	RT		
QG001-01	H10	RT		
QG001-01	H11	PCR		
QG001-01	H12	PCR		

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