

ExProfile™ Human Antigen Processing & Presentation Related Gene qPCR Array

For focused group profiling of human antigen processing & presentation genes expression

Cat. No. QG003-A (1 x 96-well plate, Format A)

Cat. No. QG003-B (1 x 96-well plate, Format B)

Cat. No. QG003-C (1 x 96-well plate, Format C)

Cat. No. QG003-D (1 x 96-well plate, Format D)

Cat. No. QG003-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 antigen processing & presentation related gene qPCR array profiles the expression of 84 human genes related to dendritic cell activation and maturation. 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 cytokines, chemokines, receptors and signal transduction molecules. This array allows researchers to study the related genes to gain understanding of their roles in the functioning and characterization of dendritic cell activation and maturation.

- QG003 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

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	TNFRSF17	TLR2	THPO	TGFB1	TCP1	TAPBP	TAP2	TAP1	SYK	STAT1	SOC31	RHOA
B	RFXAP	RFXANK	RFX5	RAC1	PSME2	PSME1	PSMB9	PSMB8	PRKCD	PDIA3	OSCAR	NPEPPS
C	MAPK14	LY75	LGMN	LAP3	LAMP2	IRF8	IRF2	IFNG	IFI30	ICOSLG	ICOS	ICAM1
D	HSPA5	HSPA1A	HSP90B1	HSP90AB1	HSP90AA1	HLA-E	HLA-DRB1	HLA-DRA	HLA-DQA1	HLA-DPB1	HLA-DPA1	HLA-DOB
E	HLA-DOA	HLA-DMB	HLA-DMA	HLA-C	HLA-A	HFE	FCGR2B	ERBB2	CTSS	CTSE	CTSD	CTSB
F	CREB1	CIITA	CDC42	CD86	CD46	CD40	CD209	CD207	CD1D	CAMK2A	CALR	BLMH
G	B2M	ARTS-1	AP3M1	AP3B1	HLA-DQB2	HLA-G	MR1	HLA-B	HLA-F	CANX	CD74	PML
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG003 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
QG003-01	A01	HQP016367	NM_001192	TNFRSF17
QG003-01	A02	HQP018114	NM_003264	TLR2
QG003-01	A03	HQP018074	NM_000460	THPO
QG003-01	A04	HQP018044	NM_000660	TGFB1
QG003-01	A05	HQP017984	NM_001008897	TCP1
QG003-01	A06	HQP017902	NM_003190	TAPBP
QG003-01	A07	HQP017900	NM_000544	TAP2
QG003-01	A08	HQP017899	NM_000593	TAP1
QG003-01	A09	HQP017845	NM_003177	SYK
QG003-01	A10	HQP017764	NM_007315	STAT1
QG003-01	A11	HQP021399	NM_003745	SOCS1
QG003-01	A12	HQP010229	NM_001664	RHOA
QG003-01	B01	HQP016247	NM_000538	RFXAP
QG003-01	B02	HQP021359	NM_003721	RFXANK
QG003-01	B03	HQP016246	NM_000449	RFX5
QG003-01	B04	HQP016063	NM_006908	RAC1
QG003-01	B05	HQP015512	NM_002818	PSME2
QG003-01	B06	HQP015499	NM_006263	PSME1
QG003-01	B07	HQP015311	NM_002800	PSMB9
QG003-01	B08	HQP015291	NM_004159	PSMB8
QG003-01	B09	HQP014731	NM_006254	PRKCD
QG003-01	B10	HQP008463	NM_005313	PDIA3
QG003-01	B11	HQP002334	NM_130771	OSCAR
QG003-01	B12	HQP022857	NM_006310	NPEPPS
QG003-01	C01	HQP003133	NM_001315	MAPK14
QG003-01	C02	HQP010933	NM_002349	LY75
QG003-01	C03	HQP015082	NM_001008530	LGMN
QG003-01	C04	HQP012337	NM_015907	LAP3
QG003-01	C05	HQP010540	NM_002294	LAMP2
QG003-01	C06	HQP009251	NM_002163	IRF8
QG003-01	C07	HQP009779	NM_002199	IRF2
QG003-01	C08	HQP009467	NM_000619	IFNG
QG003-01	C09	HQP000520	NM_006332	IFI30
QG003-01	C10	HQP005977	NM_015259	ICOSLG
QG003-01	C11	HQP008554	NM_012092	ICOS
QG003-01	C12	HQP009184	NM_000201	ICAM1
QG003-01	D01	HQP009083	NM_005347	HSPA5

QG003-01	D02	HQP009077	NM_005345	HSPA1A
QG003-01	D03	HQP018231	NM_003299	HSP90B1
QG003-01	D04	HQP009097	NM_007355	HSP90AB1
QG003-01	D05	HQP009092	NM_001017963	HSP90AA1
QG003-01	D06	HQP008874	NM_005516	HLA-E
QG003-01	D07	HQP008867	NM_002124	HLA-DRB1
QG003-01	D08	HQP008866	NM_019111	HLA-DRA
QG003-01	D09	HQP008861	NM_002122	HLA-DQA1
QG003-01	D10	HQP008860	NM_002121	HLA-DPB1
QG003-01	D11	HQP008859	NM_033554	HLA-DPA1
QG003-01	D12	HQP008858	NM_002120	HLA-DOB
QG003-01	E01	HQP008857	NM_002119	HLA-DOA
QG003-01	E02	HQP008853	NM_002118	HLA-DMB
QG003-01	E03	HQP008852	NM_006120	HLA-DMA
QG003-01	E04	HQP008851	NM_002117	HLA-C
QG003-01	E05	HQP008849	NM_002116	HLA-A
QG003-01	E06	HQP008757	NM_000410	HFE
QG003-01	E07	HQP005290	NM_001002273	FCGR2B
QG003-01	E08	HQP004968	NM_001005862	ERBB2
QG003-01	E09	HQP003668	NM_004079	CTSS
QG003-01	E10	HQP003605	NM_001910	CTSE
QG003-01	E11	HQP003599	NM_001909	CTSD
QG003-01	E12	HQP003596	NM_001908	CTSB
QG003-01	F01	HQP002907	NM_004379	CREB1
QG003-01	F02	HQP011211	NM_000246	CIITA
QG003-01	F03	HQP023454	NM_001039802	CDC42
QG003-01	F04	HQP022746	NM_006889	CD86
QG003-01	F05	HQP011113	NM_002389	CD46
QG003-01	F06	HQP022955	NM_001250	CD40
QG003-01	F07	HQP008808	NM_021155	CD209
QG003-01	F08	HQP012139	NM_015717	CD207
QG003-01	F09	HQP022129	NM_001766	CD1D
QG003-01	F10	HQP019917	NM_015981	CAMK2A
QG003-01	F11	HQP019841	NM_004343	CALR
QG003-01	F12	HQP016897	NM_000386	BLMH
QG003-01	G01	HQP015171	NM_004048	B2M
QG003-01	G02	HQP013009	NM_001040458	ARTS-1
QG003-01	G03	HQP007413	NM_012095	AP3M1
QG003-01	G04	HQP021252	NM_003664	AP3B1
QG003-01	G05	HQP008865	NM_182549	HLA-DQB2
QG003-01	G06	HQP008876	NM_002127	HLA-G

QG003-01	G07	HQP008878	NM_001531	MR1
QG003-01	G08	HQP008850	NM_005514	HLA-B
QG003-01	G09	HQP008875	NM_018950	HLA-F
QG003-01	G10	HQP020051	NM_001024649	CANX
QG003-01	G11	HQP023127	NM_001025158	CD74
QG003-01	G12	HQP013299	NM_002675	PML
QG003-01	H01	HGDC		
QG003-01	H02	HGDC		
QG003-01	H03	HQP006940	NM_002046	GAPDH
QG003-01	H04	HQP016381	NM_001101	ACTB
QG003-01	H05	HQP015171	NM_004048	B2M
QG003-01	H06	HQP006171	NM_012423	RPL13A
QG003-01	H07	HQP009026	NM_000194	HPRT1
QG003-01	H08	HQP054253	NR_003286	RN18S1
QG003-01	H09	RT		
QG003-01	H10	RT		
QG003-01	H11	PCR		
QG003-01	H12	PCR		

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