

## ExProfile™ Human Cell Surface Markers Related Gene qPCR Array

For focused group profiling of human cell surface markers genes expression

Cat. No. QG098-A (1 x 96-well plate, Format A)

Cat. No. QG098-B (1 x 96-well plate, Format B)

Cat. No. QG098-C (1 x 96-well plate, Format C)

Cat. No. QG098-D (1 x 96-well plate, Format D)

Cat. No. QG098-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 surface markers related gene qPCR array profiles the expression of 84 human genes related to cell surface markers. 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 cell surface markers, such as B-cell and T-cell surface markers, natural killer (NK) cell surface markers, monocyte cell surface markers, macrophage cell surface markers and other types of surface markers. This array allows researchers to easily and reliably analyze expression of genes related to cell surface markers.

- QG098 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	TNFRSF8	ST6GAL1	FAS	HPRT1	WWF	VCAM1	TPSAB1	TNFRSF8	TEK	TACSTD1	ST6GAL1	SELP
B	S100A8	RETN	PECAM1	NT5E	NOS3	MYOCD	MYH9	MYH10	MS4A1	KRT5	KRT18	KLRD1
C	KLRB1	ITGA2	ITGA1	IL2RA	IL1R2	IL12RB1	ICAM2	HLA-DRA	HLA-A	FCGR1A	FCER2	FCER1A
D	FAS	ENG	DPP4	CTLA4	CSF1R	COL1A1	CHST10	CD96	CD8B	CD86	CD80	CD79B
E	CD72	CD70	CD7	CD69	CD6	CD5	CD40LG	CD40	CD4	CD3G	CD3D	CD38
F	CD28	CD247	CD244	CD24	CD22	CD209	CD2	CD1D	CD1C	CD1A	CD19	CD163
G	CD160	C5AR1	CD79B	CD37	CD8A	CD74	CD79A	CD83	COL1A2	CR2	ITGA3	KLRC1
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG098 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
QG098-01	A01	HQP022754	NM_152942	TNFRSF8
QG098-01	A02	HQP017180	NM_173217	ST6GAL1
QG098-01	A03	HQP009653	NM_152872	FAS
QG098-01	A04	HQP009026	NM_000194	HPRT1
QG098-01	A05	HQP018504	NM_000552	VWF
QG098-01	A06	HQP053975	NM_001078	VCAM1
QG098-01	A07	HQP018221	NM_003294	TPSAB1
QG098-01	A08	HQP022753	NM_001243	TNFRSF8
QG098-01	A09	HQP018012	NM_000459	TEK
QG098-01	A10	HQP010942	NM_002354	TACSTD1
QG098-01	A11	HQP017179	NM_003032	ST6GAL1
QG098-01	A12	HQP016746	NM_003005	SELP
QG098-01	B01	HQP016544	NM_002964	S100A8
QG098-01	B02	HQP015160	NM_020415	RETN
QG098-01	B03	HQP013015	NM_000442	PECAM1
QG098-01	B04	HQP011932	NM_002526	NT5E
QG098-01	B05	HQP011868	NM_000603	NOS3
QG098-01	B06	HQP022608	NM_153604	MYOCD
QG098-01	B07	HQP011614	NM_002473	MYH9
QG098-01	B08	HQP011615	NM_005964	MYH10
QG098-01	B09	HQP022527	NM_021950	MS4A1
QG098-01	B10	HQP010141	NM_000424	KRT5
QG098-01	B11	HQP010197	NM_000224	KRT18
QG098-01	B12	HQP010112	NM_002262	KLRD1
QG098-01	C01	HQP010106	NM_002258	KLRB1
QG098-01	C02	HQP009794	NM_002203	ITGA2
QG098-01	C03	HQP009793	NM_181501	ITGA1
QG098-01	C04	HQP009650	NM_000417	IL2RA
QG098-01	C05	HQP018800	NM_004633	IL1R2
QG098-01	C06	HQP009694	NM_005535	IL12RB1
QG098-01	C07	HQP009187	NM_000873	ICAM2
QG098-01	C08	HQP008866	NM_019111	HLA-DRA
QG098-01	C09	HQP008849	NM_002116	HLA-A

QG098-01	C10	HQP005251	NM_000566	FCGR1A
QG098-01	C11	HQP005242	NM_002002	FCER2
QG098-01	C12	HQP005238	NM_002001	FCER1A
QG098-01	D01	HQP009651	NM_000043	FAS
QG098-01	D02	HQP004856	NM_000118	ENG
QG098-01	D03	HQP004434	NM_001935	DPP4
QG098-01	D04	HQP003500	NM_005214	CTLA4
QG098-01	D05	HQP003158	NM_005211	CSF1R
QG098-01	D06	HQP002462	NM_000088	COL1A1
QG098-01	D07	HQP022817	NM_004854	CHST10
QG098-01	D08	HQP000279	NM_005816	CD96
QG098-01	D09	HQP022438	NM_004931	CD8B
QG098-01	D10	HQP022746	NM_006889	CD86
QG098-01	D11	HQP022722	NM_005191	CD80
QG098-01	D12	HQP023155	NM_000626	CD79B
QG098-01	E01	HQP023117	NM_001782	CD72
QG098-01	E02	HQP023108	NM_001252	CD70
QG098-01	E03	HQP022399	NM_006137	CD7
QG098-01	E04	HQP023094	NM_001781	CD69
QG098-01	E05	HQP022384	NM_006725	CD6
QG098-01	E06	HQP022337	NM_014207	CD5
QG098-01	E07	HQP022962	NM_000074	CD40LG
QG098-01	E08	HQP022955	NM_001250	CD40
QG098-01	E09	HQP022316	NM_000616	CD4
QG098-01	E10	HQP022256	NM_000073	CD3G
QG098-01	E11	HQP022212	NM_000732	CD3D
QG098-01	E12	HQP022870	NM_001775	CD38
QG098-01	F01	HQP022699	NM_006139	CD28
QG098-01	F02	HQP022295	NM_000734	CD247
QG098-01	F03	HQP013003	NM_016382	CD244
QG098-01	F04	HQP022579	NM_013230	CD24
QG098-01	F05	HQP022561	NM_001771	CD22
QG098-01	F06	HQP008808	NM_021155	CD209
QG098-01	F07	HQP022190	NM_001767	CD2
QG098-01	F08	HQP022129	NM_001766	CD1D
QG098-01	F09	HQP022111	NM_001765	CD1C
QG098-01	F10	HQP022070	NM_001763	CD1A
QG098-01	F11	HQP022504	NM_001770	CD19
QG098-01	F12	HQP022548	NM_004244	CD163
QG098-01	G01	HQP001290	NM_007053	CD160
QG098-01	G02	HQP018326	NM_001736	C5AR1

QG098-01	G03	HQP023157	NM_021602	CD79B
QG098-01	G04	HQP022856	NM_001774	CD37
QG098-01	G05	HQP022418	NM_001768	CD8A
QG098-01	G06	HQP023129	NM_004355	CD74
QG098-01	G07	HQP023144	NM_001783	CD79A
QG098-01	G08	HQP022501	NM_004233	CD83
QG098-01	G09	HQP002466	NM_000089	COL1A2
QG098-01	G10	HQP002890	NM_001877	CR2
QG098-01	G11	HQP009796	NM_002204	ITGA3
QG098-01	G12	HQP010107	NM_002259	KLRC1
QG098-01	H01	HGDC		
QG098-01	H02	HGDC		
QG098-01	H03	HQP006940	NM_002046	GAPDH
QG098-01	H04	HQP016381	NM_001101	ACTB
QG098-01	H05	HQP015171	NM_004048	B2M
QG098-01	H06	HQP006171	NM_012423	RPL13A
QG098-01	H07	HQP009026	NM_000194	HPRT1
QG098-01	H08	HQP054253	NR_003286	RN18S1
QG098-01	H09	RT		
QG098-01	H10	RT		
QG098-01	H11	PCR		
QG098-01	H12	PCR		

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### Limited Use License

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