

ExProfile™ Human T Cell Anergy & Immune Tolerance Related Gene qPCR Array

For focused group profiling of human Tcell anergy and immune tolerance genes expression

Cat. No. QG057-A (1 x 96-well plate, Format A)

Cat. No. QG057-B (1 x 96-well plate, Format B)

Cat. No. QG057-C (1 x 96-well plate, Format C)

Cat. No. QG057-D (1 x 96-well plate, Format D)

Cat. No. QG057-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 T-cell anergy and immune tolerance related gene qPCR array profiles the expression of 84 human genes related to T-cell anergy and immune tolerance. These genes are carefully chosen for their close correlation based on a thorough literature search of peer-reviewed publications, mainly including genes T-cell and B-cell regulators, cytokines and receptors, TNF superfamily members and their receptors, and transcriptional factors. This array allows researchers to study the related genes to gain understanding of their roles in T cell anergy and immune tolerance.

- QG057 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	BTLA	CBLB	CCL3L1	CCR4	CD27	CD28	CD40	CD40LG	CD70	CDK2	CDK4	CMA1
B	CSF1	CSF2	CTLA4	EGR2	EGR3	EOMES	FAS	FASLG	FOS	FOXP2	FOXP3	GATA3
C	GZMB	ICAM1	ICOS	IFNG	IL10	IL10RA	IL13	IL15	IL17A	IL1A	IL2	IL2RA
D	IL2RB	IL31	IL4	IL5	IL6	IL7R	ING4	IRF4	ITCH	ITGA1	JAK1	JAK3
E	JUN	LAT	LEP	LGALS3	LTA	MEF2A	NFATC1	NFATC2	NFATC3	NFKB1	NOTCH1	PDCD1
F	PRF1	PRKCG	PTGER2	PTGS2	SELL	STAT3	STAT6	TBX21	TGFB1	TNFRSF10A	TNFRSF14	TNFRSF18
G	TNFRSF4	TNFRSF8	TNFRSF9	TNFSF10	TNFSF14	TNFSF8	ACTB	B2M	GAPDH	HPRT1	RPLP0	DGKZ
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG057 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
QG057-01	A01	HQP003654	NM_181780	BTLA
QG057-01	A02	HQP021438	NM_170662	CBLB
QG057-01	A03	HQP053971	NM_021006	CCL3L1
QG057-01	A04	HQP002209	NM_005508	CCR4
QG057-01	A05	HQP022667	NM_001242	CD27
QG057-01	A06	HQP022699	NM_006139	CD28
QG057-01	A07	HQP022955	NM_001250	CD40
QG057-01	A08	HQP022962	NM_000074	CD40LG
QG057-01	A09	HQP023108	NM_001252	CD70
QG057-01	A10	HQP000225	NM_001798	CDK2
QG057-01	A11	HQP000245	NM_000075	CDK4
QG057-01	A12	HQP002142	NM_001836	CMA1
QG057-01	B01	HQP003149	NM_000757	CSF1
QG057-01	B02	HQP003159	NM_000758	CSF2
QG057-01	B03	HQP003500	NM_005214	CTLA4
QG057-01	B04	HQP004613	NM_000399	EGR2
QG057-01	B05	HQP004616	NM_004430	EGR3
QG057-01	B06	HQP020132	NM_005442	EOMES
QG057-01	B07	HQP009651	NM_000043	FAS
QG057-01	B08	HQP009671	NM_000639	FASLG
QG057-01	B09	HQP006188	NM_005252	FOS
QG057-01	B10	HQP022662	NM_014491	FOXP2
QG057-01	B11	HQP012269	NM_014009	FOXP3
QG057-01	B12	HQP007166	NM_002051	GATA3
QG057-01	C01	HQP008690	NM_004131	GZMB
QG057-01	C02	HQP009184	NM_000201	ICAM1
QG057-01	C03	HQP008554	NM_012092	ICOS
QG057-01	C04	HQP009467	NM_000619	IFNG
QG057-01	C05	HQP009685	NM_000572	IL10
QG057-01	C06	HQP009686	NM_001558	IL10RA
QG057-01	C07	HQP009697	NM_002188	IL13
QG057-01	C08	HQP009708	NM_000585	IL15
QG057-01	C09	HQP009717	NM_002190	IL17A
QG057-01	C10	HQP009640	NM_000575	IL1A
QG057-01	C11	HQP009649	NM_000586	IL2
QG057-01	C12	HQP009650	NM_000417	IL2RA
QG057-01	D01	HQP009658	NM_000878	IL2RB
QG057-01	D02	HQP010154	NM_001014336	IL31
QG057-01	D03	HQP009662	NM_000589	IL4
QG057-01	D04	HQP009666	NM_000879	IL5
QG057-01	D05	HQP009670	NM_000600	IL6
QG057-01	D06	HQP009677	NM_002185	IL7R

QG057-01	D07	HQP012449	NM_016162	ING4
QG057-01	D08	HQP009781	NM_002460	IRF4
QG057-01	D09	HQP020315	NM_031483	ITCH
QG057-01	D10	HQP009793	NM_181501	ITGA1
QG057-01	D11	HQP009849	NM_002227	JAK1
QG057-01	D12	HQP009851	NM_000215	JAK3
QG057-01	E01	HQP009853	NM_002228	JUN
QG057-01	E02	HQP007463	NM_014387	LAT
QG057-01	E03	HQP010581	NM_000230	LEP
QG057-01	E04	HQP010590	NM_002306	LGALS3
QG057-01	E05	HQP010907	NM_000595	LTA
QG057-01	E06	HQP011149	NM_005587	MEF2A
QG057-01	E07	HQP011788	NM_172390	NFATC1
QG057-01	E08	HQP011789	NM_012340	NFATC2
QG057-01	E09	HQP011792	NM_004555	NFATC3
QG057-01	E10	HQP011807	NM_003998	NFKB1
QG057-01	E11	HQP011873	NM_017617	NOTCH1
QG057-01	E12	HQP012662	NM_005018	PDCD1
QG057-01	F01	HQP054058	NM_005041	PRF1
QG057-01	F02	HQP014751	NM_002739	PRKCG
QG057-01	F03	HQP015544	NM_000956	PTGER2
QG057-01	F04	HQP015598	NM_000963	PTGS2
QG057-01	F05	HQP016745	NM_000655	SELL
QG057-01	F06	HQP017767	NM_003150	STAT3
QG057-01	F07	HQP017775	NM_003153	STAT6
QG057-01	F08	HQP008682	NM_013351	TBX21
QG057-01	F09	HQP018044	NM_000660	TGFB1
QG057-01	F10	HQP021557	NM_003844	TNFRSF10A
QG057-01	F11	HQP021522	NM_003820	TNFRSF14
QG057-01	F12	HQP021536	NM_004195	TNFRSF18
QG057-01	G01	HQP018332	NM_003327	TNFRSF4
QG057-01	G02	HQP022753	NM_001243	TNFRSF8
QG057-01	G03	HQP009716	NM_001561	TNFRSF9
QG057-01	G04	HQP021502	NM_003810	TNFSF10
QG057-01	G05	HQP021496	NM_003807	TNFSF14
QG057-01	G06	HQP022769	NM_001244	TNFSF8
QG057-01	G07	HQP016381	NM_001101	ACTB
QG057-01	G08	HQP015171	NM_004048	B2M
QG057-01	G09	HQP006940	NM_002046	GAPDH
QG057-01	G10	HQP009026	NM_000194	HPRT1
QG057-01	G11	HQP054097	NM_001002	RPLP0
QG057-01	G12	HQP021151	NM_003646	DGKZ
QG057-01	H01	HGDC		
QG057-01	H02	HGDC		
QG057-01	H03	HQP006940	NM_002046	GAPDH
QG057-01	H04	HQP016381	NM_001101	ACTB

QG057-01	H05	HQP015171	NM_004048	B2M
QG057-01	H06	HQP006171	NM_012423	RPL13A
QG057-01	H07	HQP009026	NM_000194	HPRT1
QG057-01	H08	HQP054253	NR_003286	RN18S1
QG057-01	H09	RT		
QG057-01	H10	RT		
QG057-01	H11	PCR		
QG057-01	H12	PCR		

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