

ExProfile™ Human T helper 17 (Th17) Related Gene qPCR Array

For focused group profiling of human T helper 17 (Th17) related gene expression

Cat. No. QG058-A (1 x 96-well plate, Format A)

Cat. No. QG058-B (1 x 96-well plate, Format B)

Cat. No. QG058-C (1 x 96-well plate, Format C)

Cat. No. QG058-D (1 x 96-well plate, Format D)

Cat. No. QG058-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 helper 17 (Th17) related gene qPCR array profiles the expression of 84 human genes related to the functioning and characterization of Th17 cells. These genes are carefully chosen for their close pathway correlation based on a thorough literature search of peer-reviewed publications, and include Th17 cytokines and their receptors, important signaling molecules, genes induced by IL17, and key surface markers and transcription factors. This array allows researchers to study pathway-related genes to gain understanding of their roles in the functioning and characterization of Th17 cells.

- QG058 plate 01: 84 unique gene PCR primer pairs

Shipping and storage conditions

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 receipt, please check to make sure that the correct array format was ordered to ensure 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	CARD9	CCL11	CCL13	CCL20	CCL5	CCR2	CCR4	CCR5	CCR6	CD28	CD4	CRP
B	CSF2	CSF3	CXCL10	CXCL12	CXCL2	CXCL3	DEFB4	EDG1	EOMES	FAS	FASLG	FOXP3
C	GATA3	GZMB	HLX1	ICAM1	ICOS	IFNG	IL10	IL12B	IL12RB1	IL12RB2	IL13	IL15
D	IL17A	IL17C	IL17F	IL17RA	IL17RB	IL18	IL1B	IL1R1	IL2	IL21	IL22	IL23A
E	IL23R	IL4	IL6	IL6R	ITGAL	ITGAM	ITGAX	JAK2	LCN2	LIF	MAP3K14	MMP3
F	MMP9	NFATC2	NFKB1	PRKCQ	PTGES2	PTGS2	RORC	S100A8	S100A9	SMAD7	SOCS3	STAT3
G	STAT4	STAT5A	SYK	TBX21	TGFB1	TNF	CD8A	CEBPB	CEBPD	IL17D	IL17RC	IL17RE
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG058 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
QG058-01	A01	HQP016832	NM_052813	CARD9
QG058-01	A02	HQP016629	NM_002986	CCL11
QG058-01	A03	HQP016630	NM_005408	CCL13
QG058-01	A04	HQP016639	NM_004591	CCL20
QG058-01	A05	HQP016626	NM_002985	CCL5
QG058-01	A06	HQP002200	NM_000647	CCR2
QG058-01	A07	HQP002209	NM_005508	CCR4
QG058-01	A08	HQP002210	NM_000579	CCR5
QG058-01	A09	HQP002212	NM_004367	CCR6
QG058-01	A10	HQP022699	NM_006139	CD28
QG058-01	A11	HQP022316	NM_000616	CD4
QG058-01	A12	HQP002994	NM_000567	CRP
QG058-01	B01	HQP003159	NM_000758	CSF2
QG058-01	B02	HQP003173	NM_000759	CSF3
QG058-01	B03	HQP009746	NM_001565	CXCL10
QG058-01	B04	HQP016669	NM_000609	CXCL12
QG058-01	B05	HQP008458	NM_002089	CXCL2
QG058-01	B06	HQP008459	NM_002090	CXCL3
QG058-01	B07	HQP004193	NM_004942	DEFB4
QG058-01	B08	HQP004554	NM_001400	EDG1
QG058-01	B09	HQP020132	NM_005442	EOMES
QG058-01	B10	HQP009651	NM_000043	FAS
QG058-01	B11	HQP009671	NM_000639	FASLG
QG058-01	B12	HQP012269	NM_014009	FOXP3
QG058-01	C01	HQP007165	NM_001002295	GATA3
QG058-01	C02	HQP008690	NM_004131	GZMB
QG058-01	C03	HQP008880	NM_021958	HLX1
QG058-01	C04	HQP009184	NM_000201	ICAM1
QG058-01	C05	HQP008554	NM_012092	ICOS
QG058-01	C06	HQP009467	NM_000619	IFNG
QG058-01	C07	HQP009685	NM_000572	IL10
QG058-01	C08	HQP009693	NM_002187	IL12B
QG058-01	C09	HQP009694	NM_005535	IL12RB1
QG058-01	C10	HQP009696	NM_001559	IL12RB2
QG058-01	C11	HQP009697	NM_002188	IL13
QG058-01	C12	HQP009708	NM_000585	IL15
QG058-01	D01	HQP009717	NM_002190	IL17A
QG058-01	D02	HQP007582	NM_013278	IL17C
QG058-01	D03	HQP001495	NM_052872	IL17F
QG058-01	D04	HQP006340	NM_014339	IL17RA
QG058-01	D05	HQP014454	NM_018725	IL17RB

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QG058-01	D06	HQP009718	NM_001562	IL18
QG058-01	D07	HQP009641	NM_000576	IL1B
QG058-01	D08	HQP009642	NM_000877	IL1R1
QG058-01	D09	HQP009649	NM_000586	IL2
QG058-01	D10	HQP016102	NM_021803	IL21
QG058-01	D11	HQP012161	NM_020525	IL22
QG058-01	D12	HQP012859	NM_016584	IL23A
QG058-01	E01	HQP003495	NM_144701	IL23R
QG058-01	E02	HQP009662	NM_000589	IL4
QG058-01	E03	HQP009670	NM_000600	IL6
QG058-01	E04	HQP009672	NM_000565	IL6R
QG058-01	E05	HQP009806	NM_002209	ITGAL
QG058-01	E06	HQP009807	NM_000632	ITGAM
QG058-01	E07	HQP009809	NM_000887	ITGAX
QG058-01	E08	HQP009850	NM_004972	JAK2
QG058-01	E09	HQP010567	NM_005564	LCN2
QG058-01	E10	HQP010607	NM_002309	LIF
QG058-01	E11	HQP021888	NM_003954	MAP3K14
QG058-01	E12	HQP011257	NM_002422	MMP3
QG058-01	F01	HQP011263	NM_004994	MMP9
QG058-01	F02	HQP011789	NM_012340	NFATC2
QG058-01	F03	HQP011807	NM_003998	NFKB1
QG058-01	F04	HQP014804	NM_006257	PRKCQ
QG058-01	F05	HQP019539	NM_025072	PTGES2
QG058-01	F06	HQP015598	NM_000963	PTGS2
QG058-01	F07	HQP016378	NM_001001523	RORC
QG058-01	F08	HQP016544	NM_002964	S100A8
QG058-01	F09	HQP016548	NM_002965	S100A9
QG058-01	F10	HQP010966	NM_005904	SMAD7
QG058-01	F11	HQP021889	NM_003955	SOCS3
QG058-01	F12	HQP017767	NM_003150	STAT3
QG058-01	G01	HQP017770	NM_003151	STAT4
QG058-01	G02	HQP017771	NM_003152	STAT5A
QG058-01	G03	HQP017845	NM_003177	SYK
QG058-01	G04	HQP008682	NM_013351	TBX21
QG058-01	G05	HQP018044	NM_000660	TGFB1
QG058-01	G06	HQP018141	NM_000594	TNF
QG058-01	G07	HQP022418	NM_001768	CD8A
QG058-01	G08	HQP000623	NM_005194	CEBPB
QG058-01	G09	HQP000639	NM_005195	CEBPD
QG058-01	G10	HQP013221	NM_138284	IL17D
QG058-01	G11	HQP020957	NM_032732	IL17RC
QG058-01	G12	HQP002703	NM_144640	IL17RE
QG058-01	H01	HGDC		
QG058-01	H02	HGDC		
QG058-01	H03	HQP006940	NM_002046	GAPDH
QG058-01	H04	HQP016381	NM_001101	ACTB

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QG058-01	H05	HQP015171	NM_004048	B2M
QG058-01	H06	HQP006171	NM_012423	RPL13A
QG058-01	H07	HQP009026	NM_000194	HPRT1
QG058-01	H08	HQP054253	NR_003286	RN18S1
QG058-01	H09	RT		
QG058-01	H10	RT		
QG058-01	H11	PCR		
QG058-01	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

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