

ExProfile™ Human Thyroid Cancer Gene qPCR Array

For focused group profiling of human thyroid cancer related genes expression

Cat. No. QG080-A (1 x 96-well plate, Format A)

Cat. No. QG080-B (1 x 96-well plate, Format B)

Cat. No. QG080-C (1 x 96-well plate, Format C)

Cat. No. QG080-D (1 x 96-well plate, Format D)

Cat. No. QG080-E (1 x 96-well plate, Format E)

Available as 1 set or 6 sets. Each set contains 84 unique gene primers deposited in one 96-well plate.

Introduction

The ExProfile human thyroid cancer gene qPCR array profiles 84 human genes to aberrantly expressed human genes involved in human thyroid cancer. These genes are carefully chosen for their close cancer correlation based on a thorough literature search of peer-reviewed publications. Abnormal gene expression is often observed in cancer development and progression. The ExProfile human thyroid cancer gene array allows researchers to study the cancer-related genes to gain understanding of their roles in thyroid cancer pathogenesis.

- QG080 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	BRAF	RET	BCR	NRAS	KRAS	PIK3CA	HRAS	XRCC3	XRCC1	TP53	AKT1	HLA-DRB1
B	TSHR	TITF1	THRA	PTPRJ	MLH1	NAT2	FOXE1	GSTO1	CCDC6	XRCC4	VEGFA	TG
C	RAF1	NTRK1	MYC	MSH3	LIG4	GNB3	EGFR	CYP1A1	SDHD	GFRA1	FGFR1	DUOX1
D	THRAP1	CDYL	TRIP11	TRIP12	STK17A	STK17B	AIP	GPR98	NCOA4	CXCR4	PAX8	MAP3K12
E	XRCC5	XRCC2	WT1	VWF	VTN	VDR	UCP1	TYK2	TRAF6	TPO	TCF12	TCEB3
F	STAT3	STAT2	STAT1	SRC	SMO	SIAH2	SEL1L	SDHC	SDHB	CCL5	S100A10	BCL2
G	RASA1	RAP1A	RAD52	PTHLH	BAD	PTEN	PTCH1	MAPK1	ChGn	PRKAR1A	PPARG	PMS2
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG080 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
QG080-01	A01	HQP017733	NM_004333	BRAF
QG080-01	A02	HQP054045	BC004257	RET
QG080-01	A03	HQP016418	NM_004327	BCR
QG080-01	A04	HQP011914	NM_002524	NRAS
QG080-01	A05	HQP010133	NM_004985	KRAS
QG080-01	A06	HQP013150	NM_006218	PIK3CA
QG080-01	A07	HQP009036	NM_005343	HRAS
QG080-01	A08	HQP018564	NM_005432	XRCC3
QG080-01	A09	HQP018562	NM_006297	XRCC1
QG080-01	A10	HQP018175	NM_000546	TP53
QG080-01	A11	HQP004991	NM_001014431	AKT1
QG080-01	A12	HQP054047	BC008403	HLA-DRB1
QG080-01	B01	HQP018271	NM_000369	TSHR
QG080-01	B02	HQP018097	NM_003317	TITF1
QG080-01	B03	HQP018077	NM_003250	THRA
QG080-01	B04	HQP015925	NM_002843	PTPRJ
QG080-01	B05	HQP011235	NM_000249	MLH1
QG080-01	B06	HQP001136	NM_000015	NAT2
QG080-01	B07	HQP005704	NM_004473	FOXE1
QG080-01	B08	HQP022764	NM_004832	GSTO1
QG080-01	B09	HQP019650	NM_005436	CCDC6
QG080-01	B10	HQP018565	NM_003401	XRCC4
QG080-01	B11	HQP018475	NM_001025366	VEGFA
QG080-01	B12	HQP018042	NM_003235	TG
QG080-01	C01	HQP016088	NM_002880	RAF1
QG080-01	C02	HQP011938	NM_001007792	NTRK1
QG080-01	C03	HQP011597	NM_002467	MYC
QG080-01	C04	HQP011492	NM_002439	MSH3
QG080-01	C05	HQP010613	NM_002312	LIG4
QG080-01	C06	HQP007767	NM_002075	GNB3
QG080-01	C07	HQP004605	NM_005228	EGFR
QG080-01	C08	HQP003772	NM_000499	CYP1A1
QG080-01	C09	HQP016706	NM_003002	SDHD
QG080-01	C10	HQP007370	NM_005264	GFRA1
QG080-01	C11	HQP054052	BC015035	FGFR1
QG080-01	C12	HQP054035	NM_175940	DUOX1
QG080-01	D01	HQP023420	NM_005121	THRAP1
QG080-01	D02	HQP022741	NM_170751	CDYL
QG080-01	D03	HQP022530	NM_004239	TRIP11
QG080-01	D04	HQP022528	NM_004238	TRIP12
QG080-01	D05	HQP022428	NM_004760	STK17A
QG080-01	D06	HQP022427	NM_004226	STK17B
QG080-01	D07	HQP021961	NM_003977	AIP

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QG080-01	D08	HQP020440	NM_032119	GPR98
QG080-01	D09	HQP019661	NM_005437	NCOA4
QG080-01	D10	HQP018802	NM_001008540	CXCR4
QG080-01	D11	HQP018794	NM_003466	PAX8
QG080-01	D12	HQP018750	NM_006301	MAP3K12
QG080-01	E01	HQP018568	NM_021141	XRCC5
QG080-01	E02	HQP018563	NM_005431	XRCC2
QG080-01	E03	HQP018546	NM_000378	WT1
QG080-01	E04	HQP018504	NM_000552	VWF
QG080-01	E05	HQP018502	NM_000638	VTN
QG080-01	E06	HQP018474	NM_000376	VDR
QG080-01	E07	HQP018402	NM_021833	UCP1
QG080-01	E08	HQP018340	NM_003331	TYK2
QG080-01	E09	HQP018237	NM_004620	TRAF6
QG080-01	E10	HQP018214	NM_000547	TPO
QG080-01	E11	HQP017965	NM_003205	TCF12
QG080-01	E12	HQP017950	NM_003198	TCEB3
QG080-01	F01	HQP017767	NM_003150	STAT3
QG080-01	F02	HQP017766	NM_005419	STAT2
QG080-01	F03	HQP017764	NM_007315	STAT1
QG080-01	F04	HQP017696	NM_005417	SRC
QG080-01	F05	HQP017563	NM_005631	SMO
QG080-01	F06	HQP017163	NM_005067	SIAH2
QG080-01	F07	HQP016743	NM_005065	SEL1L
QG080-01	F08	HQP016694	NM_001035511	SDHC
QG080-01	F09	HQP016689	NM_003000	SDHB
QG080-01	F10	HQP016626	NM_002985	CCL5
QG080-01	F11	HQP016549	NM_002966	S100A10
QG080-01	F12	HQP016212	NM_000657	BCL2
QG080-01	G01	HQP016125	NM_002890	RASA1
QG080-01	G02	HQP016103	NM_001010935	RAP1A
QG080-01	G03	HQP016087	NM_134424	RAD52
QG080-01	G04	HQP015610	NM_002820	PTHLH
QG080-01	G05	HQP015538	NM_004322	BAD
QG080-01	G06	HQP015535	NM_000314	PTEN
QG080-01	G07	HQP015530	NM_000264	PTCH1
QG080-01	G08	HQP014848	NM_002745	MAPK1
QG080-01	G09	HQP014707	NM_018371	ChGn
QG080-01	G10	HQP014650	NM_002734	PRKAR1A
QG080-01	G11	HQP013633	NM_005037	PPARG
QG080-01	G12	HQP013352	NM_000535	PMS2
QG080-01	H01	HGDC		
QG080-01	H02	HGDC		
QG080-01	H03	HQP006940	NM_002046	GAPDH
QG080-01	H04	HQP016381	NM_001101	ACTB
QG080-01	H05	HQP015171	NM_004048	B2M
QG080-01	H06	HQP006171	NM_012423	RPL13A

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QG080-01	H07	HQP009026	NM_000194	HPRT1
QG080-01	H08	HQP054253	NR_003286	RN18S1
QG080-01	H09	RT		
QG080-01	H10	RT		
QG080-01	H11	PCR		
QG080-01	H12	PCR		

Limited Use License

Following terms and conditions apply to use of ExProfile™ Thyroid Cancer 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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