

ExProfile™ Human Neurotransmitter Receptors and Regulators Related Gene qPCR Array

For focused group profiling of human neurotransmitter receptors and regulators genes expression

Cat. No. QG044-A (1 x 96-well plate, Format A)

Cat. No. QG044-B (1 x 96-well plate, Format B)

Cat. No. QG044-C (1 x 96-well plate, Format C)

Cat. No. QG044-D (1 x 96-well plate, Format D)

Cat. No. QG044-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 neurotransmitter receptors and regulators related gene qPCR array profiles the expression of 84 human genes related to modulating the biological processes of neurotransmitter biosynthesis, uptake, transport and signaling through neurotransmitter receptors. These genes are carefully chosen for their close correlation based on a thorough literature search of peer-reviewed publications, mainly including genes involved in neurotransmitter receptors and regulation of neurotransmitter levels. This array allows researchers to study the related genes to gain understanding of their roles in the functioning and characterization of neurotransmitter receptors and regulators.

- QG044 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	SORCS1	GRIN1	HPRT1	CHAT	TPH1	TACR2	TACR1	SSTR3	SSTR2	SORCS2	NPY2R	NPY1R
B	NMUR2	NMUR1	MAOA	HTR3B	HTR3A	HTR2A	HTR1B	HCRTR2	GRPR	GRIA1	NPFFR2	MCHR1
C	GCH1	GALR3	GALR1	GAD1	GABRR1	GABRQ	GABRP	GABRG2	GABRG1	GABRB2	GABRB1	GABRA2
D	GABRA1	DRD2	DRD1	COMT	CHRNA7	CHRNA5	CHRNA4	CHRNA3	CHRNA1	CHRNA2	CHRNA3	CHRNA1
E	CHRM3	CHRM2	CHRM1	CHAT	CCKBR	CCKAR	BRS3	ANXA9	ACHE	ABAT	GABRD	GCHFR
F	GLRA2	GPR103	NPFFR1	PROKR2	GRIN1	PLRLH	SORCS1	SSTR4	TSPO	CHRNA6	NPFFR2	CHRNA2
G	CHRND	DRD3	GABRA3	GABRE	GABRR2	GLRA1	HTR3A	GABRG2	NMBR	PHOX2A	PPYR1	SLC5A7
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG044 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
QG044-01	A01	HQP001713	NM_001013031	SORCS1
QG044-01	A02	HQP008367	NM_000832	GRIN1
QG044-01	A03	HQP009026	NM_000194	HPRT1
QG044-01	A04	HQP001182	NM_020549	CHAT
QG044-01	A05	HQP018195	NM_004179	TPH1
QG044-01	A06	HQP017862	NM_001057	TACR2
QG044-01	A07	HQP017867	NM_001058	TACR1
QG044-01	A08	HQP017745	NM_001051	SSTR3
QG044-01	A09	HQP017744	NM_001050	SSTR2
QG044-01	A10	HQP015688	NM_020777	SORCS2
QG044-01	A11	HQP011907	NM_000910	NPY2R
QG044-01	A12	HQP011906	NM_000909	NPY1R
QG044-01	B01	HQP015244	NM_020167	NMUR2
QG044-01	B02	HQP000392	NM_006056	NMUR1
QG044-01	B03	HQP011007	NM_000240	MAOA
QG044-01	B04	HQP022253	NM_006028	HTR3B
QG044-01	B05	HQP009123	NM_000869	HTR3A
QG044-01	B06	HQP009120	NM_000621	HTR2A
QG044-01	B07	HQP009116	NM_000863	HTR1B
QG044-01	B08	HQP008743	NM_001526	HCRT2
QG044-01	B09	HQP008464	NM_005314	GRPR
QG044-01	B10	HQP008302	NM_000827	GRIA1
QG044-01	B11	HQP001011	NM_053036	NPFFR2
QG044-01	B12	HQP008082	NM_005297	MCHR1
QG044-01	C01	HQP007235	NM_000161	GCH1
QG044-01	C02	HQP020973	NM_003614	GALR3
QG044-01	C03	HQP006820	NM_001480	GALR1
QG044-01	C04	HQP006683	NM_000817	GAD1
QG044-01	C05	HQP006666	NM_002042	GABRR1
QG044-01	C06	HQP014797	NM_018558	GABRQ
QG044-01	C07	HQP006660	NM_014211	GABRP
QG044-01	C08	HQP006651	NM_000816	GABRG2
QG044-01	C09	HQP006647	NM_173536	GABRG1
QG044-01	C10	HQP006624	NM_000813	GABRB2
QG044-01	C11	HQP006620	NM_000812	GABRB1
QG044-01	C12	HQP006601	NM_000807	GABRA2
QG044-01	D01	HQP006599	NM_000806	GABRA1
QG044-01	D02	HQP004446	NM_000795	DRD2
QG044-01	D03	HQP004445	NM_000794	DRD1
QG044-01	D04	HQP002671	NM_000754	COMT

QG044-01	D05	HQP001678	NM_005199	CHRNA7
QG044-01	D06	HQP001673	NM_000080	CHRNA7
QG044-01	D07	HQP001667	NM_000750	CHRNA7
QG044-01	D08	HQP001644	NM_000746	CHRNA7
QG044-01	D09	HQP001643	NM_000745	CHRNA5
QG044-01	D10	HQP001637	NM_000744	CHRNA4
QG044-01	D11	HQP001632	NM_000743	CHRNA3
QG044-01	D12	HQP001614	NM_000079	CHRNA1
QG044-01	E01	HQP001562	NM_000740	CHRM3
QG044-01	E02	HQP001535	NM_000739	CHRM2
QG044-01	E03	HQP001526	NM_000738	CHRM1
QG044-01	E04	HQP054020	NM_020985	CHAT
QG044-01	E05	HQP021662	NM_176875	CCKBR
QG044-01	E06	HQP021647	NM_000730	CCKAR
QG044-01	E07	HQP017802	NM_001727	BRS3
QG044-01	E08	HQP020523	NM_003568	ANXA9
QG044-01	E09	HQP011345	NM_000665	ACHE
QG044-01	E10	HQP004553	NM_000663	ABAT
QG044-01	E11	HQP006638	NM_000815	GABRD
QG044-01	E12	HQP007238	NM_005258	GCHFR
QG044-01	F01	HQP007712	NM_002063	GLRA2
QG044-01	F02	HQP020492	NM_198179	GPR103
QG044-01	F03	HQP016788	NM_022146	NPFFR1
QG044-01	F04	HQP002517	NM_144773	PROKR2
QG044-01	F05	HQP008368	NM_007327	GRIN1
QG044-01	F06	HQP007913	NM_004248	PRLHR
QG044-01	F07	HQP001714	NM_052918	SORCS1
QG044-01	F08	HQP017746	NM_001052	SSTR4
QG044-01	F09	HQP018081	NM_000714	TSPO
QG044-01	F10	HQP021761	NM_004198	CHRNA6
QG044-01	F11	HQP001010	NM_004885	NPFFR2
QG044-01	F12	HQP001658	NM_000748	CHRNA2
QG044-01	G01	HQP001668	NM_000751	CHRNA7
QG044-01	G02	HQP004448	NM_000796	DRD3
QG044-01	G03	HQP006604	NM_000808	GABRA3
QG044-01	G04	HQP054022	NM_021990	GABRE
QG044-01	G05	HQP006672	NM_002043	GABRR2
QG044-01	G06	HQP007709	NM_000171	GLRA1
QG044-01	G07	HQP009124	NM_213621	HTR3A
QG044-01	G08	HQP006652	NM_198903	GABRG2
QG044-01	G09	HQP011851	NM_002511	NMBR
QG044-01	G10	HQP010839	NM_005169	PHOX2A
QG044-01	G11	HQP014388	NM_005972	PPYR1
QG044-01	G12	HQP016312	NM_021815	SLC5A7
QG044-01	H01	HGDC		
QG044-01	H02	HGDC		

QG044-01	H03	HQP006940	NM_002046	GAPDH
QG044-01	H04	HQP016381	NM_001101	ACTB
QG044-01	H05	HQP015171	NM_004048	B2M
QG044-01	H06	HQP006171	NM_012423	RPL13A
QG044-01	H07	HQP009026	NM_000194	HPRT1
QG044-01	H08	HQP054253	NR_003286	RN18S1
QG044-01	H09	RT		
QG044-01	H10	RT		
QG044-01	H11	PCR		
QG044-01	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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