

ExProfile™ Human Neurogenesis and Neural Stem Cell Related Gene qPCR Array

For focused group profiling of human neurogenesis and neural stem cell genes expression

Cat. No. QG042-A (1 x 96-well plate, Format A)

Cat. No. QG042-B (1 x 96-well plate, Format B)

Cat. No. QG042-C (1 x 96-well plate, Format C)

Cat. No. QG042-D (1 x 96-well plate, Format D)

Cat. No. QG042-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 neurogenesis and neural stem cell related gene qPCR array profiles the expression of 84 human genes related to neurogenesis and neural stem cell differentiation. These genes are carefully chosen for their close correlation based on a thorough literature search of peer-reviewed publications, mainly including genes involved in regulation of cell cycle, cell proliferation, apoptosis, differentiation, motility, migration. This array allows researchers to study the related genes to gain understanding of their roles in the functioning and characterization of the processes of neurogenesis and neural stem cell differentiation.

- QG042 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	PPARG	PDPK1	HPRT1	CD44	ZIC2	WNT11	WISP1	TLE1	TEAD1	STIL	SH2D1A	RUNX1
B	PSENEN	PPARG	POFUT1	PAX5	NR4A2	NFKB2	MYCL1	MMP7	MAP2K7	LOR	KRT1	IL2RA
C	IL17B	IFNG	HOXB4	GSK3B	GLI1	GBP2	ERBB2	CDC16	CD44	CCNE1	CBL	TGFB1
D	SUPT6H	SUFU	STAT6	STAT3	SNW1	SMO	SMAD2	SMAD1	SHH	SEL1L	RBPJ	PSEN1
E	POFUT1	PDPK1	PCAF	PAX6	NUMBL	NUMB	NOTCH3	NOTCH2	NOTCH1	NFKB2	NFKB1	NCSTN
F	MYC	MFNG	MAML3	JAG2	JAG1	IL6ST	HR	HEY1	HES1	HDAC2	HDAC1	GSK3B
G	GCN5L2	GATA3	FZD7	FZD6	FZD4	FZD3	FZD2	FZD1	FOSL1	FOS	FIGF	ERBB2
H	HGDC	HGDC	GAPDH	ACTB	B2M	RPL13A	HPRT1	RN18S1	RT	RT	PCR	PCR

Figure1. Illustration of QG042 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
QG042-01	A01	HQP021591	NM_201264	NRP2
QG042-01	A02	HQP008818	NM_004495	NRG1
QG042-01	A03	HQP011915	NM_001037132	NRCAM
QG042-01	A04	HQP009026	NM_000194	HPRT1
QG042-01	A05	HQP018575	NM_003405	YWHAH
QG042-01	A06	HQP018481	NM_003376	VEGFA
QG042-01	A07	HQP017767	NM_003150	STAT3
QG042-01	A08	HQP022584	NM_004787	SLIT2
QG042-01	A09	HQP017098	NM_000193	SHH
QG042-01	A10	HQP000613	NM_006378	SEMA4D
QG042-01	A11	HQP016553	NM_006272	S100B
QG042-01	A12	HQP016542	NM_014624	S100A6
QG042-01	B01	HQP015432	NM_007008	RTN4
QG042-01	B02	HQP016063	NM_006908	RAC1
QG042-01	B03	HQP013574	NM_006236	POU3F3
QG042-01	B04	HQP012219	NM_000280	PAX6
QG042-01	B05	HQP012212	NM_016734	PAX5
QG042-01	B06	HQP012210	NM_181461	PAX3
QG042-01	B07	HQP020816	NM_032521	PARD6B
QG042-01	B08	HQP015061	NM_019619	PARD3
QG042-01	B09	HQP012140	NM_000430	PAFAH1B1
QG042-01	B10	HQP000223	NM_014253	ODZ1
QG042-01	B11	HQP022735	NM_004822	NTN1
QG042-01	B12	HQP021589	NM_003872	NRP2
QG042-01	C01	HQP021597	NM_003873	NRP1
QG042-01	C02	HQP008820	NM_013957	NRG1
QG042-01	C03	HQP011904	NM_002522	NPTX1
QG042-01	C04	HQP011875	NM_024408	NOTCH2
QG042-01	C05	HQP011241	NM_005933	MLL
QG042-01	C06	HQP011151	NM_002397	MEF2C
QG042-01	C07	HQP009743	NM_002192	INHBA
QG042-01	C08	HQP006147	NM_012259	HEY2
QG042-01	C09	HQP009057	NM_005524	HES1
QG042-01	C10	HQP012862	NM_016596	HDAC7A
QG042-01	C11	HQP023167	NM_006037	HDAC4
QG042-01	C12	HQP007814	NM_000175	GPI
QG042-01	D01	HQP007752	NM_020988	GNAO1
QG042-01	D02	HQP007346	NM_000514	GDNF
QG042-01	D03	HQP005403	NM_002006	FGF2
QG042-01	D04	HQP023016	NM_005103	FEZ1
QG042-01	D05	HQP004969	NM_004448	ERBB2
QG042-01	D06	HQP004897	NM_001429	EP300

QG042-01	D07	HQP004599	NM_001963	EGF
QG042-01	D08	HQP004596	NM_004429	EFNB1
QG042-01	D09	HQP004516	NM_004423	DVL3
QG042-01	D10	HQP004446	NM_000795	DRD2
QG042-01	D11	HQP004445	NM_000794	DRD1
QG042-01	D12	HQP008111	NM_005618	DLL1
QG042-01	E01	HQP004342	NM_001365	DLG4
QG042-01	E02	HQP008456	NM_001511	CXCL1
QG042-01	E03	HQP001535	NM_000739	CHRM2
QG042-01	E04	HQP019636	NM_176096	CDK5RAP3
QG042-01	E05	HQP012938	NM_016408	CDK5RAP1
QG042-01	E06	HQP021622	NM_003885	CDK5R1
QG042-01	E07	HQP017477	NM_001720	BMP8B
QG042-01	E08	HQP053910	NM_130851	BMP4
QG042-01	E09	HQP017333	NM_001200	BMP2
QG042-01	E10	HQP015745	NM_001702	BAI1
QG042-01	E11	HQP023361	NM_014862	ARNT2
QG042-01	E12	HQP009556	NM_000041	APOE
QG042-01	F01	HQP009007	NM_001164	APBB1
QG042-01	F02	HQP006353	NM_004304	ALK
QG042-01	F03	HQP002833	NM_000675	ADORA2A
QG042-01	F04	HQP002799	NM_000674	ADORA1
QG042-01	F05	HQP011345	NM_000665	ACHE
QG042-01	F06	HQP011244	NM_004316	ASCL1
QG042-01	F07	HQP022320	NM_005448	BMP15
QG042-01	F08	HQP008368	NM_007327	GRIN1
QG042-01	F09	HQP011700	NM_000266	NDP
QG042-01	F10	HQP008772	NM_014587	SOX8
QG042-01	F11	HQP015433	NM_020532	RTN4
QG042-01	F12	HQP016545	NM_001709	BDNF
QG042-01	G01	HQP018166	NM_003285	TNR
QG042-01	G02	HQP005422	NM_004114	FGF13
QG042-01	G03	HQP006122	NM_012258	HEY1
QG042-01	G04	HQP009660	NM_000588	IL3
QG042-01	G05	HQP053984	NM_002391	MDK
QG042-01	G06	HQP011699	NM_002487	NDN
QG042-01	G07	HQP011771	NM_002500	NEUROD1
QG042-01	G08	HQP054071	NM_005450	NOG
QG042-01	G09	HQP011917	NM_005010	NRCAM
QG042-01	G10	HQP013585	NM_006237	POU4F1
QG042-01	G11	HQP015778	NM_002825	PTN
QG042-01	G12	HQP016368	NM_002941	ROBO1
QG042-01	H01	HGDC		
QG042-01	H02	HGDC		
QG042-01	H03	HQP006940	NM_002046	GAPDH
QG042-01	H04	HQP016381	NM_001101	ACTB

QG042-01	H05	HQP015171	NM_004048	B2M
QG042-01	H06	HQP006171	NM_012423	RPL13A
QG042-01	H07	HQP009026	NM_000194	HPRT1
QG042-01	H08	HQP054253	NR_003286	RN18S1
QG042-01	H09	RT		
QG042-01	H10	RT		
QG042-01	H11	PCR		
QG042-01	H12	PCR		

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