

# RT<sup>2</sup> Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

## Human Neurogenesis

Cat. no. 330231 PAHS-404ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array, Format A	Applied Biosystems® models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad® models iCycler®, iQ™ 5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf® Mastercycler® ep realplex models 2, 2s, 4, 4s; Stratagene® models Mx3005P®, Mx3000P®; Takara TP-800
RT <sup>2</sup> Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT <sup>2</sup> Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT <sup>2</sup> Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT <sup>2</sup> Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT <sup>2</sup> Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT <sup>2</sup> Profiler PCR Array, Format H	Fluidigm® BioMark™



Sample & Assay Technologies

## Description

The Human Neurogenesis RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 genes related to the processes of neurogenesis and neural stem cell differentiation. Genes related to the regulation of key neurogenesis processes such as the cell cycle and cell proliferation, differentiation, motility, and migration are included. This array contains the growth factors and cytokines related to neural stem cells as well as genes involved in synaptic functions, apoptosis, and cell adhesion. Cell signaling genes involved in neurogenesis are represented as well as genes involved in the regulation of transcription. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to neurogenesis and neural stem cells with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

## Shipping and storage

RT<sup>2</sup> Profiler PCR Arrays in formats A, C, D, E, F, and G are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products. RT<sup>2</sup> Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

For long term storage, keep plates at  $-20^{\circ}\text{C}$ .

**Note:** Ensure that you have the correct RT<sup>2</sup> Profiler PCR Array format for your real-time cycler (see table above).

**Note:** Open the package and store the products appropriately immediately on receipt.

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## Array layout (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT<sup>2</sup> Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	ACHE	ADORA1	ADORA2A	ALK	APBB1	APOE	APP	ARTN	ASCL1	BCL2	BDNF	BMP2
B	BMP4	BMP8B	CDK5R1	CDK5RAP2	CHRM2	CREB1	CXCL1	DCX	DLG4	DLL1	DRD2	DVL3
C	EFNB1	EGF	EP300	ERBB2	FGF2	FLNA	GDNF	GPI	GRIN1	HDAC4	HES1	HEY1
D	HEY2	HEYL	IL3	MAP2	MDK	MEF2C	MLL	NDN	NDP	NEUROD1	NEUROG1	NEUROG2
E	NF1	NOG	NOTCH1	NOTCH2	NR2E3	NRCAM	NRG1	NRP1	NRP2	NTF3	NTN1	ODZ1
F	OLIG2	PAFAH1B1	PARD3	PAX3	PAX5	PAX6	POU3F3	POU4F1	PTN	RAC1	ROBO1	RTN4
G	S100A6	S100B	SHH	SLIT2	SOD1	SOX2	SOX8	STAT3	TGFB1	TH	TNR	VEGFA
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

## Gene table: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.154495	NM_000665	ACHE	Acetylcholinesterase
A02	Hs.77867	NM_000674	ADORA1	Adenosine A1 receptor
A03	Hs.197029	NM_000675	ADORA2A	Adenosine A2a receptor
A04	Hs.654469	NM_004304	ALK	Anaplastic lymphoma receptor tyrosine kinase
A05	Hs.372840	NM_001164	APBB1	Amyloid beta (A4) precursor protein-binding, family B, member 1 (Fe65)
A06	Hs.654439	NM_000041	APOE	Apolipoprotein E
A07	Hs.434980	NM_000484	APP	Amyloid beta (A4) precursor protein
A08	Hs.632404	NM_001136215	ARTN	Artemin
A09	Hs.707985	NM_004316	ASCL1	Achaete-scute complex homolog 1 (Drosophila)
A10	Hs.150749	NM_000633	BCL2	B-cell CLL/lymphoma 2
A11	Hs.502182	NM_001709	BDNF	Brain-derived neurotrophic factor
A12	Hs.73853	NM_001200	BMP2	Bone morphogenetic protein 2
B01	Hs.68879	NM_130851	BMP4	Bone morphogenetic protein 4
B02	Hs.664022	NM_001720	BMP8B	Bone morphogenetic protein 8b
B03	Hs.500015	NM_003885	CDK5R1	Cyclin-dependent kinase 5, regulatory subunit 1 (p35)
B04	Hs.269560	NM_018249	CDK5RAP2	CDK5 regulatory subunit associated protein 2
B05	Hs.535891	NM_000739	CHRM2	Cholinergic receptor, muscarinic 2
B06	Hs.516646	NM_004379	CREB1	CAMP responsive element binding protein 1
B07	Hs.789	NM_001511	CXCL1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
B08	Hs.34780	NM_178153	DCX	Doublecortin
B09	Hs.463928	NM_001365	DLG4	Discs, large homolog 4 (Drosophila)
B10	Hs.379912	NM_005618	DLL1	Delta-like 1 (Drosophila)
B11	Hs.73893	NM_000795	DRD2	Dopamine receptor D2
B12	Hs.388116	NM_004423	DVL3	Dishevelled, dsh homolog 3 (Drosophila)
C01	Hs.144700	NM_004429	EFNB1	Ephrin-B1
C02	Hs.419815	NM_001963	EGF	Epidermal growth factor
C03	Hs.517517	NM_001429	EP300	E1A binding protein p300
C04	Hs.446352	NM_004448	ERBB2	V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
C05	Hs.284244	NM_002006	FGF2	Fibroblast growth factor 2 (basic)
C06	Hs.195464	NM_001456	FLNA	Filamin A, alpha
C07	Hs.248114	NM_000514	GDNF	Glial cell derived neurotrophic factor
C08	Hs.466471	NM_000175	GPI	Glucose-6-phosphate isomerase
C09	Hs.558334	NM_007327	GRIN1	Glutamate receptor, ionotropic, N-methyl D-aspartate 1
C10	Hs.20516	NM_006037	HDAC4	Histone deacetylase 4
C11	Hs.250666	NM_005524	HES1	Hairy and enhancer of split 1, (Drosophila)
C12	Hs.234434	NM_012258	HEY1	Hairy/enhancer-of-split related with YRPW motif 1
D01	Hs.144287	NM_012259	HEY2	Hairy/enhancer-of-split related with YRPW motif 2
D02	Hs.472566	NM_014571	HEYL	Hairy/enhancer-of-split related with YRPW motif-like
D03	Hs.694	NM_000588	IL3	Interleukin 3 (colony-stimulating factor, multiple)
D04	Hs.368281	NM_002374	MAP2	Microtubule-associated protein 2
D05	Hs.82045	NM_002391	MDK	Midkine (neurite growth-promoting factor 2)
D06	Hs.653394	NM_002397	MEF2C	Myocyte enhancer factor 2C
D07	Hs.258855	NM_005933	MLL	Myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosophila)
D08	Hs.50130	NM_002487	NDN	Necdin homolog (mouse)

Position	UniGene	GenBank	Symbol	Description
D09	Hs.522615	NM_000266	NDP	Norrie disease (pseudoglioma)
D10	Hs.574626	NM_002500	NEUROD1	Neurogenic differentiation 1
D11	Hs.248149	NM_006161	NEUROG1	Neurogenin 1
D12	Hs.567563	NM_024019	NEUROG2	Neurogenin 2
E01	Hs.113577	NM_000267	NF1	Neurofibromin 1
E02	Hs.248201	NM_005450	NOG	Noggin
E03	Hs.495473	NM_017617	NOTCH1	Notch 1
E04	Hs.487360	NM_024408	NOTCH2	Notch 2
E05	Hs.187354	NM_014249	NR2E3	Nuclear receptor subfamily 2, group E, member 3
E06	Hs.21422	NM_005010	NRCAM	Neuronal cell adhesion molecule
E07	Hs.453951	NM_013957	NRG1	Neuregulin 1
E08	Hs.131704	NM_003873	NRP1	Neuropilin 1
E09	Hs.471200	NM_003872	NRP2	Neuropilin 2
E10	Hs.99171	NM_002527	NTF3	Neurotrophin 3
E11	Hs.660885	NM_004822	NTN1	Netrin 1
E12	Hs.23796	NM_014253	ODZ1	Odz, odd Oz/ten-m homolog 1 (Drosophila)
F01	Hs.176977	NM_005806	OLIG2	Oligodendrocyte lineage transcription factor 2
F02	Hs.77318	NM_000430	PAFAH1B1	Platelet-activating factor acetylhydrolase 1b, regulatory subunit 1 (45kDa)
F03	Hs.131489	NM_019619	PARD3	Par-3 partitioning defective 3 homolog (C. elegans)
F04	Hs.42146	NM_181461	PAX3	Paired box 3
F05	Hs.654464	NM_016734	PAX5	Paired box 5
F06	Hs.270303	NM_000280	PAX6	Paired box 6
F07	Hs.673855	NM_006236	POU3F3	POU class 3 homeobox 3
F08	Hs.654522	NM_006237	POU4F1	POU class 4 homeobox 1
F09	Hs.371249	NM_002825	PTN	Pleiotrophin
F10	Hs.413812	NM_006908	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
F11	Hs.13640	NM_002941	ROBO1	Roundabout, axon guidance receptor, homolog 1 (Drosophila)
F12	Hs.704007	NM_007008	RTN4	Reticulon 4
G01	Hs.275243	NM_014624	S100A6	S100 calcium binding protein A6
G02	Hs.422181	NM_006272	S100B	S100 calcium binding protein B
G03	Hs.164537	NM_000193	SHH	Sonic hedgehog
G04	Hs.29802	NM_004787	SLIT2	Slit homolog 2 (Drosophila)
G05	Hs.443914	NM_000454	SOD1	Superoxide dismutase 1, soluble
G06	Hs.518438	NM_003106	SOX2	SRY (sex determining region Y)-box 2
G07	Hs.243678	NM_014587	SOX8	SRY (sex determining region Y)-box 8
G08	Hs.463059	NM_003150	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)
G09	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
G10	Hs.435609	NM_000360	TH	Tyrosine hydroxylase
G11	Hs.659864	NM_003285	TNR	Tenascin R (restrictin, janusin)
G12	Hs.73793	NM_003376	VEGFA	Vascular endothelial growth factor A
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human Genomic DNA Contamination
H07	N/A	SA_00104	RTC	Reverse Transcription Control
H08	N/A	SA_00104	RTC	Reverse Transcription Control
H09	N/A	SA_00104	RTC	Reverse Transcription Control
H10	N/A	SA_00103	PPC	Positive PCR Control
H11	N/A	SA_00103	PPC	Positive PCR Control
H12	N/A	SA_00103	PPC	Positive PCR Control

## Related products

For optimal performance, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> SYBR Green qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with real-time cyclers that do not require a reference dye, including: Bio-Rad models CFX96, CFX384, DNA Engine Opticon 2; Bio-Rad/MJ Research Chromo4; Roche LightCycler 480 (96-well and 384-well); all other cyclers	330500
RT <sup>2</sup> SYBR Green ROX™ qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Applied Biosystems models 5700, 7000, 7300, 7500 [Standard and FAST], 7700, 7900HT 96-well block [Standard and FAST] and 384-well block, StepOnePlus; Eppendorf Mastercycler ep realplex models 2, 2S, 4, 4S; Stratagene models Mx3000P, Mx3005P, Mx4000; Takara TP-800	330520
RT <sup>2</sup> SYBR Green Fluor qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Bio-Rad models iCycler, iQ5, MyiQ, MyiQ2	330510

\* Larger kit sizes available; please inquire.

RT<sup>2</sup> Profiler PCR Array products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

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