

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

## Human GPCR Signaling PathwayFinder

Cat. no. 330231 PAHS-071ZA

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 G-Protein-Coupled Receptor Signaling PathwayFinder RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 genes representative of and involved in GPCR-mediated signal transduction pathways. G-protein Coupled Receptors (GPCRs) that are represented on this array include bioactive lipid receptors, metabotropic glutamate receptors (mGluRs), GABA-B-like receptors, rhodopsin-like receptors, and secretin-like receptors. Members of the intricate network of intracellular signaling pathways involved in GPCR-mediated signal transduction are also represented on this array including the cAMP / PKA Pathway, Calcium / PKC Pathway, Calcium / NFAT Pathway, PLC Pathway, Protein Tyrosine Kinase Pathway, PKC / MEK Pathway, p43 / p44MAP Pathway, p38 MAP Pathway, PI-3 Kinase Pathway, NO-cGMP Pathway, Rho Pathway, NFκB Pathway and Jak / Stat Pathway. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to GPCR-mediated signaling 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°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
<b>A</b>	ADCY5	ADORA2A	ADRB1	ADRB2	AGT	AGTR1	AGTR2	AGTRAP	AKT1	ARRB1	ARRB2	BAI1
<b>B</b>	BCL2	BCL2L1	CALCR	CALCRL	CASR	CCL2	CCL4	CCND1	CCNE1	CCNE2	CDKN1A	CDKN1B
<b>C</b>	CFLAR	COL1A1	CRHR1	CRHR2	CTGF	CYP19A1	DRD1	DRD2	DUSP14	EDN1	EGR1	ELK1
<b>D</b>	ELK4	FGF2	FOS	GALR2	GCGR	GNAQ	GNAS	GRM1	GRM2	GRM4	GRM5	GRM7
<b>E</b>	ICAM1	IL1B	IL1R1	IL1R2	IL2	JUN	JUNB	LHCGR	LPAR1	LPAR2	MAX	MMP9
<b>F</b>	MYC	NOS2	OPRD1	OPRK1	PDPK1	PIK3CG	PRKCA	PTGDR	PTGS2	PTH1R	RGS2	RHO
<b>G</b>	S1PR1	S1PR2	S1PR3	SCTR	SERPINE1	SOCS1	TNF	TSHR	UCP1	VCAM1	VEGFA	YWHAZ
<b>H</b>	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.655144	NM_183357	ADCY5	Adenylate cyclase 5
A02	Hs.197029	NM_000675	ADORA2A	Adenosine A2a receptor
A03	Hs.99913	NM_000684	ADRB1	Adrenergic, beta-1-, receptor
A04	Hs.591251	NM_000024	ADRB2	Adrenergic, beta-2-, receptor, surface
A05	Hs.19383	NM_000029	AGT	Angiotensinogen (serpin peptidase inhibitor, clade A, member 8)
A06	Hs.728754	NM_031850	AGTR1	Angiotensin II receptor, type 1
A07	Hs.405348	NM_000686	AGTR2	Angiotensin II receptor, type 2
A08	Hs.464438	NM_020350	AGTRAP	Angiotensin II receptor-associated protein
A09	Hs.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A10	Hs.503284	NM_004041	ARRB1	Arrestin, beta 1
A11	Hs.435811	NM_004313	ARRB2	Arrestin, beta 2
A12	Hs.194654	NM_001702	BAI1	Brain-specific angiogenesis inhibitor 1
B01	Hs.150749	NM_000633	BCL2	B-cell CLL/lymphoma 2
B02	Hs.516966	NM_138578	BCL2L1	BCL2-like 1
B03	Hs.489127	NM_001742	CALCR	CALCITONIN RECEPTOR
B04	Hs.470882	NM_005795	CALCRL	Calcitonin receptor-like
B05	Hs.435615	NM_000388	CASR	Calcium-sensing receptor
B06	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2
B07	Hs.75703	NM_002984	CCL4	Chemokine (C-C motif) ligand 4
B08	Hs.523852	NM_053056	CCND1	Cyclin D1
B09	Hs.244723	NM_001238	CCNE1	Cyclin E1
B10	Hs.567387	NM_057749	CCNE2	Cyclin E2
B11	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
B12	Hs.238990	NM_004064	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)
C01	Hs.390736	NM_003879	CFLAR	CASP8 and FADD-like apoptosis regulator
C02	Hs.172928	NM_000088	COL1A1	Collagen, type I, alpha 1
C03	Hs.417628	NM_004382	CRHR1	Corticotropin releasing hormone receptor 1
C04	Hs.729970	NM_001883	CRHR2	Corticotropin releasing hormone receptor 2
C05	Hs.591346	NM_001901	CTGF	Connective tissue growth factor
C06	Hs.260074	NM_000103	CYP19A1	Cytochrome P450, family 19, subfamily A, polypeptide 1
C07	Hs.2624	NM_000794	DRD1	Dopamine receptor D1
C08	Hs.73893	NM_000795	DRD2	Dopamine receptor D2
C09	Hs.91448	NM_007026	DUSP14	Dual specificity phosphatase 14
C10	Hs.511899	NM_001955	EDN1	Endothelin 1
C11	Hs.326035	NM_001964	EGR1	Early growth response 1
C12	Hs.181128	NM_005229	ELK1	ELK1, member of ETS oncogene family
D01	Hs.497520	NM_001973	ELK4	ELK4, ETS-domain protein (SRF accessory protein 1)
D02	Hs.284244	NM_002006	FGF2	Fibroblast growth factor 2 (basic)
D03	Hs.728789	NM_005252	FOS	FBJ murine osteosarcoma viral oncogene homolog
D04	Hs.666366	NM_003857	GALR2	GALANIN RECEPTOR 2
D05	Hs.208	NM_000160	GCGR	Glucagon receptor
D06	Hs.269782	NM_002072	GNAQ	Guanine nucleotide binding protein (G protein), q polypeptide
D07	Hs.125898	NM_080425	GNAS	GNAS complex locus
D08	Hs.32945	NM_000838	GRM1	Glutamate receptor, metabotropic 1
D09	Hs.121510	NM_000839	GRM2	Glutamate receptor, metabotropic 2

Position	UniGene	GenBank	Symbol	Description
D10	Hs.654847	NM_000841	GRM4	Glutamate receptor, metabotropic 4
D11	Hs.147361	NM_000842	GRM5	Glutamate receptor, metabotropic 5
D12	Hs.606393	NM_000844	GRM7	Glutamate receptor, metabotropic 7
E01	Hs.643447	NM_000201	ICAM1	Intercellular adhesion molecule 1
E02	Hs.126256	NM_000576	IL1B	Interleukin 1, beta
E03	Hs.701982	NM_000877	IL1R1	Interleukin 1 receptor, type I
E04	Hs.25333	NM_004633	IL1R2	Interleukin 1 receptor, type II
E05	Hs.89679	NM_000586	IL2	Interleukin 2
E06	Hs.714791	NM_002228	JUN	Jun proto-oncogene
E07	Hs.25292	NM_002229	JUNB	Jun B proto-oncogene
E08	Hs.468490	NM_000233	LHCGR	Luteinizing hormone/choriogonadotropin receptor
E09	Hs.126667	NM_057159	LPAR1	Lysophosphatidic acid receptor 1
E10	Hs.122575	NM_004720	LPAR2	Lysophosphatidic acid receptor 2
E11	Hs.285354	NM_002382	MAX	MYC associated factor X
E12	Hs.297413	NM_004994	MMP9	Matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)
F01	Hs.202453	NM_002467	MYC	V-myc myelocytomatosis viral oncogene homolog (avian)
F02	Hs.709191	NM_000625	NOS2	Nitric oxide synthase 2, inducible
F03	Hs.372	NM_000911	OPRD1	Opioid receptor, delta 1
F04	Hs.106795	NM_000912	OPRK1	Opioid receptor, kappa 1
F05	Hs.459691	NM_002613	PDPK1	3-phosphoinositide dependent protein kinase-1
F06	Hs.32942	NM_002649	PIK3CG	Phosphoinositide-3-kinase, catalytic, gamma polypeptide
F07	Hs.531704	NM_002737	PRKCA	Protein kinase C, alpha
F08	Hs.306831	NM_000953	PTGDR	Prostaglandin D2 receptor (DP)
F09	Hs.196384	NM_000963	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
F10	Hs.1019	NM_000316	PTH1R	Parathyroid hormone 1 receptor
F11	Hs.78944	NM_002923	RGS2	Regulator of G-protein signaling 2, 24kDa
F12	Hs.247565	NM_000539	RHO	Rhodopsin
G01	Hs.154210	NM_001400	S1PR1	Sphingosine-1-phosphate receptor 1
G02	Hs.655405	NM_004230	S1PR2	Sphingosine-1-phosphate receptor 2
G03	Hs.585118	NM_005226	S1PR3	Sphingosine-1-phosphate receptor 3
G04	Hs.42091	NM_002980	SCTR	Secretin receptor
G05	Hs.414795	NM_000602	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
G06	Hs.50640	NM_003745	SOCS1	Suppressor of cytokine signaling 1
G07	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G08	Hs.160411	NM_000369	TSHR	Thyroid stimulating hormone receptor
G09	Hs.249211	NM_021833	UCP1	Uncoupling protein 1 (mitochondrial, proton carrier)
G10	Hs.109225	NM_001078	VCAM1	Vascular cell adhesion molecule 1
G11	Hs.73793	NM_003376	VEGFA	Vascular endothelial growth factor A
G12	Hs.492407	NM_003406	YWHAZ	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta polypeptide
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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