

RT² Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

Zebrafish Signal Transduction PathwayFinder

Cat. no. 330231 PAZF-014ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² 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 ² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT ² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT ² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT ² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT ² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT ² Profiler PCR Array, Format H	Fluidigm® BioMark™



Sample & Assay Technologies

Description

The Zebrafish Signal Transduction PathwayFinder RT² Profiler PCR Array profiles the expression of 84 key genes responsive to signal transduction pathway activation or inhibition. Cellular signaling forms a complex network of gene interactions involving multiple signal transduction pathways. Each pathway ultimately increases or decreases the expression of its target genes resulting in alteration of cellular processes. Changes in target gene expression suggest signaling pathway activation or inhibition. However, gene expression results in the same pathway vary widely, depending on model systems and experimental conditions. Therefore, multiple target genes from each pathway should be examined to ensure accurate signaling pathway identification in a variety of model systems. In addition, analyzing multiple pathways simultaneously tests for signaling pathway crosstalk. This array includes target genes for 10 commonly studied signal transduction pathways, including pathways important for developmental, metabolic, and stress-activated processes. Results obtained with this array can suggest pathways that are potentially activated or inhibited by an experimental stimulus for further follow-up studies. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in cellular signaling with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

Shipping and storage

RT² 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. RT² 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 RT² Profiler PCR Array format for your real-time cycler (see table above).

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

Array layout (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT² Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	acsl3a	acsl3b	acsl4a	acsl5	arnt	atf4b1	atf4b2	axin2	baxa	bbc3	bcl2	bcl2l1
B	birc2	bmp2b	bmp4	btg2	ca9	ccnd1	ccnd2a	cdkn1a	cebpd	cpt2	csf1a	csf1b
C	dab2	egfra	emp1	epo	fabp1a	fas	fosl1	fth1a	fth1b	gadd45aa	gadd45ab	gadd45ba
D	gata3	gclc	gclm	her6	herpud1	hey1	hey2	hey1	hmax1	id1	itf1d1	irf1
E	jag1b	ldha	lfrg	LOC100002756	LOC100332722	LOC556502	mdl1a	mdl1b	myca	mycb	nfix	notch1b
F	nqo1	pcna	pparb	plch1	rb1	serpine1	si:dkey-90m5.4	slc27a4	slc2a1a	slc2a1b	socs3a	socs3b
G	sqstm1	stat1a	tnfrsf102	tnfrsf1	vegfab	wisp1a	wisp1b	wnt1	wnt2bb	wnt3a	wnt5a	zgc:110010
H	acta1b	b2m	hprt1	nono	rpl13a	ZGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Dr.74135	NM_001045128	acsl3a	Acyl-CoA synthetase long-chain family member 3a
A02	Dr.129985	XM_683018	acsl3b	Acyl-CoA synthetase long-chain family member 3b
A03	Dr.78711	NM_200649	acsl4a	Acyl-CoA synthetase long-chain family member 4a
A04	Dr.117302	NM_001004599	acsl5	Acyl-CoA synthetase long-chain family member 5
A05	Dr.89940	NM_001007789	arnt	Aryl hydrocarbon receptor nuclear translocator
A06	Dr.5846	NM_213233	atf4b1	Activating transcription factor 4b1 (tax-responsive enhancer element B67)
A07	Dr.104781	NM_001103192	atf4b2	Activating transcription factor 4b2
A08	Dr.3727	NM_131561	axin2	Axin 2 (conductin, axil)
A09	Dr.78968	NM_131562	baxa	Bcl2-associated X protein, a
A10	Dr.26003	NM_001045472	bbc3	BCL2 binding component 3
A11	Dr.45607	NM_001030253	bcl2	B-cell leukemia/lymphoma 2
A12	Dr.79623	NM_131807	bcl2l1	Bcl2-like 1
B01	Dr.77093	NM_194395	birc2	Baculoviral IAP repeat-containing 2
B02	Dr.568	NM_131360	bmp2b	Bone morphogenetic protein 2b
B03	Dr.567	NM_131342	bmp4	Bone morphogenetic protein 4
B04	Dr.76624	NM_130922	btg2	B-cell translocation gene 2
B05	Dr.80089	XM_689890	ca9	Carbonic anhydrase IX
B06	Dr.75056	NM_131025	ccnd1	Cyclin D1
B07	Dr.92706	NM_001089445	ccnd2a	Cyclin D2, a
B08	Dr.151578	XM_001923789	cdkn1a	Cyclin-dependent kinase inhibitor 1A
B09	Dr.1280	NM_131887	cebpd	CCAAT/enhancer binding protein (C/EBP), delta
B10	Dr.75429	NM_001007447	cpt2	Carnitine palmitoyltransferase II
B11	Dr.116966	NM_001114480	csf1a	Colony stimulating factor 1a (macrophage)
B12	Dr.26260	NM_001080076	csf1b	Colony stimulating factor 1b (macrophage)
C01	Dr.79878	NM_205757	dab2	Disabled homolog 2 (Drosophila)
C02	Dr.82227	NM_194424	egfra	Epidermal growth factor receptor a (erythroblastic leukemia viral (v-erb-b) oncogene homolog, avian)
C03	Dr.140741	XM_002660538	emp1	Epithelial membrane protein 1
C04	Dr.11767	NM_001038009	epo	Erythropoietin
C05	Dr.84678	NM_001044712	fabp1a	Fatty acid binding protein 1a, liver
C06	Dr.150815	XM_685355	fas	Fas (TNF receptor superfamily, member 6)
C07	Dr.84030	NM_001161552	fosl1	FOS-like antigen 1
C08	Dr.6496	NM_131585	fth1a	Ferritin, heavy polypeptide 1a
C09	Dr.83447	NM_001004562	fth1b	Ferritin, heavy polypeptide 1b
C10	Dr.27107	NM_200576	gadd45aa	Growth arrest and DNA-damage-inducible, alpha, a
C11	Dr.83410	NM_001002216	gadd45ab	Growth arrest and DNA-damage-inducible, alpha, b
C12	Dr.76269	NM_213031	gadd45ba	Growth arrest and DNA-damage-inducible, beta a
D01	Dr.77524	NM_131211	gata3	GATA-binding protein 3
D02	Dr.80394	NM_199277	gclc	Glutamate-cysteine ligase, catalytic subunit
D03	Dr.80559	NM_199845	gclm	Glutamate-cysteine ligase, modifier subunit
D04	Dr.75065	NM_131079	her6	Hairy-related 6

Position	UniGene	GenBank	Symbol	Description
D05	Dr.132634	NM_001025537	herpud1	Homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1
D06	Dr.19915	NM_212561	hey1	Hairy/enhancer-of-split related with YRPW motif 1
D07	Dr.81319	NM_131622	hey2	Hairy/enhancer-of-split related with YRPW motif 2
D08	Dr.82032	NM_181736	hey1	Hairy/enhancer-of-split related with YRPW motif-like
D09	Dr.78853	NM_001127516	hmox1	Heme oxygenase (decycling) 1
D10	Dr.75570	NM_131245	id1	Inhibitor of DNA binding 1
D11	Dr.74180	NM_001076555	ifrd1	Interferon-related developmental regulator 1
D12	Dr.81011	NM_001040352	irf1	Interferon regulatory factor 1
E01	Dr.12589	NM_131863	jag1b	Jagged 1b
E02	Dr.4212	NM_131246	ldha	Lactate dehydrogenase A4
E03	Dr.1831	NM_130971	lfng	Lunatic fringe homolog
E04	Dr.155897	XM_001342425	LOC100002756	Novel protein similar to vertebrate sorbin and SH3 domain containing family
E05	N/A	XM_002662311	LOC100332722	Protein Wnt-6-like
E06	N/A	XM_679325	LOC556502	ADM-like
E07	Dr.33208	NM_131599	mcl1a	Myeloid cell leukemia sequence 1a
E08	Dr.26893	NM_194394	mcl1b	Myeloid cell leukemia sequence 1b
E09	Dr.1	NM_131412	myca	Myelocytomatosis oncogene a
E10	Dr.78260	NM_200172	mycb	Myelocytomatosis oncogene b
E11	N/A	XM_678243	nfix	Nuclear factor I/X
E12	Dr.75825	NM_131302	notch1b	Notch homolog 1b
F01	Dr.4189	NM_001204272	nqo1	NAD(P)H dehydrogenase, quinone 1
F02	Dr.35605	NM_131404	pcna	Proliferating cell nuclear antigen
F03	Dr.27180	NM_131468	pparbd	Peroxisome proliferator-activated receptor delta b
F04	Dr.116176	XM_001922126	ptch1	Patched 1
F05	Dr.42121	NM_001077780	rb1	Retinoblastoma 1
F06	Dr.119909	NM_001114559	serpine1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F07	Dr.75680	XM_681190	si: dkey-90m5.4	Si:dkey-90m5.4
F08	Dr.132883	NM_001017737	slc27a4	Solute carrier family 27 (fatty acid transporter), member 4
F09	Dr.132485	NM_001039808	slc2a1a	Solute carrier family 2 (facilitated glucose transporter), member 1a
F10	N/A	XM_002662528	slc2a1b	Solute carrier family 2 (facilitated glucose transporter), member 1b
F11	Dr.6431	NM_199950	socs3a	Suppressor of cytokine signaling 3a
F12	Dr.81607	NM_213304	socs3b	Suppressor of cytokine signaling 3b
G01	Dr.76246	NM_213173	sqstm1	Sequestosome 1
G02	Dr.143657	NM_131480	stat1a	Signal transduction and activation of transcription 1a
G03	Dr.86839	NM_001002593	tnfsf10l2	Tumor necrosis factor (ligand) superfamily, member 10 like 2
G04	Dr.77564	NM_183072	txnrd1	Thioredoxin reductase 1
G05	Dr.79865	NM_001044855	vegfab	Vascular endothelial growth factor Ab
G06	Dr.149255	NM_001166230	wisp1a	WNT1 inducible signaling pathway protein 1a
G07	Dr.86900	NM_001113628	wisp1b	WNT1 inducible signaling pathway protein 1b
G08	Dr.85371	NM_001201398	wnt1	Wingless-type MMTV integration site family, member 1
G09	Dr.90856	NM_001044344	wnt2bb	Wingless-type MMTV integration site family, member 2Bb
G10	Dr.92208	NM_001007185	wnt3a	Wingless-type MMTV integration site family, member 3A
G11	Dr.108590	NM_001079834	wnt5a	Wingless-type MMTV integration site family, member 5a
G12	Dr.83699	NM_001020554	zgc:110010	Zgc:110010
H01	Dr.47173	NM_214784	acta1b	Actin, alpha 1b, skeletal muscle
H02	Dr.51646	NM_001159768	b2m	Beta-2-microglobulin
H03	Dr.77915	NM_212986	hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Dr.150274	NM_201579	nono	Non-POU domain containing, octamer-binding
H05	Dr.32450	NM_212784	rpl13a	Ribosomal protein L13a
H06	N/A zebrafish	SA_00143	ZGDC	Zebrafish 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, RT² Profiler PCR Arrays should be used together with the RT² First Strand Kit for cDNA synthesis and RT² SYBR[®] Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT ² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT ² 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 ² 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 ² 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.

RT² 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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