

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

Zebrafish WNT Signaling Targets

Cat. no. 330231 PAZF-243ZA

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 WNT Signaling Targets RT² Profiler PCR Array profiles the expression of 84 key genes responsive to WNT signal transduction. The WNT family of secreted growth factors regulates development and differentiation as well as general cell maintenance processes such as migration and cell cycle regulation. The WNT ligands bind to Frizzled (FZD) receptor family members and activate one of three WNT pathways: the canonical pathway, planar cell polarity (PCP), and a calcium ion-dependent pathway. The well-studied and better characterized canonical WNT pathway signals through β -catenin and regulates cell cycle, cell growth, and proliferation. Dysregulation of the canonical WNT signal transduction pathway is associated with cancer and developmental diseases. Many target genes of the canonical WNT pathway have been identified using experimental techniques such as chromatin immunoprecipitation (ChIP) and gene expression studies, while similar analyses for the PCP and a calcium ion-dependent pathways have yet be performed. This array includes WNT canonical signaling pathway transcription factors and highly relevant target genes identified by multiple studies. Results obtained with this array can be used to analyze activation or inhibition of WNT signaling. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in WNT-regulated cellular processes 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	abcb5	ahr2	angptl4	antxr1c	axin2	bglap	birc5a	bmp4	cacna2d3	ccnd1	ccnd2a	cd44a
B	cdh1	cdkn2a/b	cdon	cdx4	cebpd	ctgfa	cubn	cx43	dab2	dharma	dkk1b	efnb1
C	egfra	egr1	ets2	fgf20a	fgf4	fgf7	fgf9	fn1a	fosl1a	fsta	fzd7a	gdf5
D	gdnfa	id2a	igf1	igf2a	il6	irs1	jag1a	klf5a	lef1	dlk1	LOC1018864 35	lrp1
E	met	miha	mmp2	mmp9	myca	nanog	nrcama	nrp1a	ntrk2b	pdgfra	pith2	pou5f3
F	ppap2b	ppardb	plch1	plgs2a	runx2b	sfrp2	si:dkey-42p8.3	six1b	smo	sox2	sox9a	ta
G	tcf4	tcf7	tcf7l1a	tcf7l2	tgfb3	twist1a	vegfaa	wisp1a	wisp2	wnt3a	wnt5a	wnt9a
H	acta1b	b2m	hprt1	nono	rpl13a	ZGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description	Assay
A01	Dr.129467	XM_001922682	abcb5	ATP-binding cassette, sub-family B (MDR/TAP), member 5	PPZ15203A
A02	Dr.79593	NM_131264	ahr2	Aryl hydrocarbon receptor 2	PPZ00316A
A03	Dr.77866	NM_001256203	angptl4	Angiopoietin-like 4	PPZ06880A
A04	Dr.82429	XM_687270	antxr1c	Anthrax toxin receptor 1	PPZ11148A
A05	Dr.3727	NM_131561	axin2	Axin 2 (conductin, axil)	PPZ00587A
A06	Dr.94152	NM_001083857	bglap	Osteocalcin	PPZ19618A
A07	Dr.14671	NM_194397	birc5a	Baculoviral IAP repeat-containing 5a	PPZ03091A
A08	Dr.567	NM_131342	bmp4	Bone morphogenetic protein 4	PPZ00386A
A09	N/A	XM_002663814	cacna2d3	Calcium channel, voltage dependent, alpha2/delta subunit 3	PPZ16836A
A10	Dr.75056	NM_131025	ccnd1	Cyclin D1	PPZ00106A
A11	Dr.159818	NM_001089445	ccnd2a	Cyclin D2, a	PPZ15329A
A12	Dr.1121	XM_001922456	cd44a	Wu:fa99e04	PPZ15071A
B01	Dr.78411	NM_131820	cdh1	Cadherin 1, epithelial	PPZ00841A
B02	N/A	XM_002660468	cdkn2a/b	Cyclin-dependent kinase inhibitor 2A/B (p15, inhibits CDK4)	PPZ21655A
B03	Dr.75153	NM_001081628	cdon	Cell adhesion molecule-related/down-regulated by oncogenes	PPZ01136A
B04	Dr.11836	NM_131109	cdx4	Caudal type homeo box transcription factor 4	PPZ15171A
B05	Dr.1280	NM_131887	cebpd	CCAAT/enhancer binding protein (C/EBP), delta	PPZ00929A
B06	Dr.42794	NM_001015041	ctgfa	Connective tissue growth factor	PPZ01272A
B07	Dr.156519	XM_002666678	cubn	Cubilin (intrinsic factor-cobalamin receptor)	PPZ16772A
B08	Dr.75809	NM_131038	cx43	Connexin 43	PPZ00115A
B09	Dr.79878	NM_205757	dab2	Disabled homolog 2 (Drosophila)	PPZ04583A
B10	Dr.75841	NM_130979	dharma	Dharma	PPZ00069A
B11	Dr.81256	NM_131003	dkk1b	Dickkopf 1b	PPZ00088A
B12	Dr.140574	NM_131805	efnb1	Ephrin B1	PPZ00822A
C01	Dr.82227	NM_194424	egfra	Epidermal growth factor receptor a (erythroblastic leukemia viral (v-erb-b) oncogene homolog, avian)	PPZ03137A
C02	Dr.144146	NM_131248	egr1	Early growth response 1	PPZ00300A
C03	Dr.7710	NM_001023580	ets2	V-ets erythroblastosis virus E26 oncogene homolog 2 (avian)	PPZ01935A
C04	Dr.113524	NM_001037103	fgf20a	Fibroblast growth factor 20a	PPZ09972A
C05	Dr.79594	NM_131635	fgf4	Fibroblast growth factor 4	PPZ12912A
C06	Dr.92905	NM_001007761	fgf7	Fibroblast growth factor 7	PPZ06951A
C07	N/A	XM_009304658	fgf9	Fibroblast growth factor 4B-like	PPZ25977A
C08	Dr.51894	NM_131520	fn1a	Fibronectin 1	PPZ15907A
C09	Dr.84030	NM_001161552	fosl1a	FOS-like antigen 1	PPZ11245A
C10	Dr.75293	NM_131037	fsta	Follistatin a	PPZ15772A
C11	Dr.4823	NM_131139	fzd7a	Frizzled homolog 7a	PPZ00205A
C12	N/A	XM_002662541	gdf5	Growth/differentiation factor 5-like	PPZ22781A
D01	Dr.11721	NM_131732	gdnfa	Glial cell derived neurotrophic factor	PPZ00746A
D02	Dr.32819	NM_201291	id2a	Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein, a	PPZ01094A
D03	Dr.82556	NM_131825	igf1	Insulin-like growth factor 1	PPZ00849A
D04	Dr.8145	NM_131433	igf2a	Insulin-like growth factor 2a	PPZ00467A
D05	Dr.162566	NM_001261449	il6	Interleukin 6 (interferon, beta 2)	PPZ24727A

Position	UniGene	GenBank	Symbol	Description	Assay
D06	Dr.3152	XM_682610	irs1	Insulin receptor substrate 1-B-like	PPZ18147B
D07	Dr.83677	NM_131861	jag1a	Jagged 1a	PPZ00897A
D08	N/A	XM_001344880	klf5a	Kruppel-like factor 5-like	PPZ20968A
D09	Dr.64686	NM_131426	lef1	Lymphocyte enhancer binding factor 1	PPZ00459A
D10	N/A	XM_005173564	dlk1	Delta like non-canonical Notch ligand 1	PPZ25973A
D11	N/A	XM_009297027	LOC101886435	Inactive dipeptidyl peptidase 10-like	PPZ25974A
D12	Dr.105708	XM_005162219	lrp1	Similar to alpha-2-macroglobulin receptor	PPZ18868A
E01	Dr.120756	NM_001007124	met	Met proto-oncogene (hepatocyte growth factor receptor)	PPZ16969A
E02	Dr.81296	NM_130923	mitfa	Microphthalmia-associated transcription factor a	PPZ00014A
E03	Dr.76397	NM_198067	mmp2	Matrix metalloproteinase 2	PPZ02659A
E04	Dr.76275	NM_213123	mmp9	Matrix metalloproteinase 9	PPZ04906A
E05	Dr.1	NM_131412	myca	Myelocytomatosis oncogene a	PPZ00447A
E06	Dr.46544	NM_001098392	nanog	Zgc:193933	PPZ14546A
E07	Dr.88100	NM_001044805	nrcama	Neuronal cell adhesion molecule	PPZ09079A
E08	Dr.133652	NM_001040326	nrp1a	Neuropilin 1a	PPZ02811A
E09	Dr.122048	NM_001197161	nrk2b	Neurotrophic tyrosine kinase, receptor, type 2b	PPZ12871A
E10	Dr.75077	NM_131459	pdgfra	Platelet derived growth factor receptor alpha	PPZ00496A
E11	Dr.81292	NM_130975	pitx2	Paired-like homeodomain transcription factor 2	PPZ00065A
E12	Dr.258	NM_131112	pou5f3	POU domain, class 5, transcription factor 1	PPZ00186A
F01	Dr.131231	XM_001919526	ppap2b	Phosphatidic acid phosphatase type 2B	PPZ09415A
F02	Dr.27180	NM_131468	ppar db	Peroxisome proliferator-activated receptor delta b	PPZ00502A
F03	Dr.81263	NM_001305542	ptch1	Patched 1	PPZ00083A
F04	Dr.113864	NM_153657	ptgs2a	Prostaglandin-endoperoxide synthase 2a	PPZ01051A
F05	Dr.30423	NM_212862	runx2b	Runt-related transcription factor 2b	PPZ04664A
F06	Dr.76476	NM_001077384	sfrp2	Secreted frizzled-related protein 2	PPZ11975A
F07	N/A	XM_005170536	si:dkey-42p8.3	Transducin-like enhancer of split 1 (E(sp1) homolog, Drosophila)	PPZ11182A
F08	Dr.27681	NM_207095	six1b	Sine oculis homeobox homolog 1b	PPZ04622A
F09	Dr.114683	NM_131027	smo	Smoothened homolog (Drosophila)	PPZ00108A
F10	Dr.5379	NM_213118	sox2	SRY-box containing gene 2	PPZ03147A
F11	Dr.80814	NM_131643	sox9a	SRY-box containing gene 9a	PPZ00662A
F12	Dr.1468	NM_131162	ta	No tail a	PPZ00225A
G01	Dr.153729	XM_009301658	tcf4	Transcription factor 4	PPZ17548A
G02	Dr.134827	NM_001012389	tcf7	Transcription factor 7 (T-cell specific, HMG-box)	PPZ07205A
G03	Dr.79155	NM_131269	tcf7l1a	Transcription factor 7-like 1a (T-cell specific, HMG-box)	PPZ00320A
G04	Dr.67692	NM_131259	tcf7l2	Transcription factor 7-like 2 (T-cell specific, HMG-box)	PPZ00311A
G05	Dr.116110	NM_194386	tgfb3	Transforming growth factor, beta 3	PPZ03062A
G06	Dr.79620	NM_130984	twist1a	Twist1a	PPZ00074A
G07	Dr.150231	NM_001110349	vegfaa	Vascular endothelial growth factor Aa	PPZ00444A
G08	Dr.149255	NM_001166230	wisp1a	WNT1 inducible signaling pathway protein 1a	PPZ10245A
G09	Dr.85127	NM_001199101	wisp2	WNT1 inducible signaling pathway protein 2	PPZ16091A
G10	Dr.92208	NM_001007185	wnt3a	Wingless-type MMTV integration site family, member 3A	PPZ00654A
G11	Dr.108590	NM_001079834	wnt5a	Wingless-type MMTV integration site family, member 5a	PPZ12333A
G12	Dr.92789	NM_001045363	wnt9a	Wingless-type MMTV integration site family, member 9A	PPZ13847A
H01	Dr.47173	NM_214784	acta1b	Actin, alpha 1b, skeletal muscle	PPZ05295A
H02	Dr.51646	NM_001159768	b2m	Beta-2-microglobulin	PPZ00226A
H03	Dr.77915	NM_212986	hprt1	Hypoxanthine phosphoribosyltransferase 1	PPZ04796A
H04	Dr.150274	NM_201579	nono	Non-POU domain containing, octamer-binding	PPZ01381A
H05	Dr.32450	NM_212784	rpl13a	Ribosomal protein L13a	PPZ10281A
H06	N/A zebrafish	SA_00143	ZGDC	Zebrafish Genomic DNA Contamination	PPZ24726A
H07	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H08	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H09	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H10	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H11	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H12	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A

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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