

RT² Profiler PCR Array (Rotor-Gene® Format)

Zebrafish WNT Signaling Targets

Cat. no. 330231 PAZF-243ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

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 the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

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 cyclers (see table above).

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

Array layout

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc™ (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance.

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
1	Dr.129467	XM_001922682	abcb5	ATP-binding cassette, sub-family B (MDR/TAP), member 5
2	Dr.79593	NM_131264	ahr2	Aryl hydrocarbon receptor 2
3	Dr.77866	NM_001256203	angptl4	Angiopoietin-like 4
4	Dr.82429	XM_687270	antxr1c	Anthrax toxin receptor 1
5	Dr.3727	NM_131561	axin2	Axin 2 (conductin, axil)
6	Dr.94152	NM_001083857	bglap	Osteocalcin
7	Dr.14671	NM_194397	birc5a	Baculoviral IAP repeat-containing 5a
8	Dr.567	NM_131342	bmp4	Bone morphogenetic protein 4
9	N/A	XM_002663814	cacna2d3	Calcium channel, voltage dependent, alpha2/delta subunit 3
10	Dr.75056	NM_131025	ccnd1	Cyclin D1
11	Dr.159818	NM_001089445	ccnd2a	Cyclin D2, a
12	Dr.1121	XM_001922456	cd44a	Wu:fa99e04
13	Dr.78411	NM_131820	cdh1	Cadherin 1, epithelial
14	N/A	XM_002660468	cdkn2a/b	Cyclin-dependent kinase inhibitor 2A/B (p15, inhibits CDK4)
15	Dr.75153	NM_001081628	cdon	Cell adhesion molecule-related/down-regulated by oncogenes
16	Dr.11836	NM_131109	cdx4	Caudal type homeo box transcription factor 4
17	Dr.1280	NM_131887	cebpd	CCAAT/enhancer binding protein (C/EBP), delta
18	Dr.42794	NM_001015041	ctgfa	Connective tissue growth factor
19	Dr.156519	XM_002666678	cubn	Cubilin (intrinsic factor-cobalamin receptor)
20	Dr.75809	NM_131038	cx43	Connexin 43
21	Dr.79878	NM_205757	dab2	Disabled homolog 2 (Drosophila)
22	Dr.75841	NM_130979	dharma	Dharma
23	Dr.81256	NM_131003	dkk1b	Dickkopf 1b
24	Dr.140574	NM_131805	efnb1	Ephrin B1
25	Dr.82227	NM_194424	egfra	Epidermal growth factor receptor a (erythroblastic leukemia viral (v-erb-b) oncogene homolog, avian)
26	Dr.144146	NM_131248	egr1	Early growth response 1
27	Dr.7710	NM_001023580	ets2	V-ets erythroblastosis virus E26 oncogene homolog 2 (avian)
28	Dr.113524	NM_001037103	fgf20a	Fibroblast growth factor 20a
29	Dr.79594	NM_131635	fgf4	Fibroblast growth factor 4
30	Dr.92905	NM_001007761	fgf7	Fibroblast growth factor 7
31	N/A	XM_009304658	fgf9	Fibroblast growth factor 4B-like
32	Dr.51894	NM_131520	fn1a	Fibronectin 1
33	Dr.84030	NM_001161552	fosl1a	FOS-like antigen 1
34	Dr.75293	NM_131037	fsta	Follistatin a
35	Dr.4823	NM_131139	fzd7a	Frizzled homolog 7a
36	N/A	XM_002662541	gdf5	Growth/differentiation factor 5-like
37	Dr.11721	NM_131732	gdnfa	Glial cell derived neurotrophic factor
38	Dr.32819	NM_201291	id2a	Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein, a

Position	UniGene	GenBank	Symbol	Description
39	Dr.82556	NM_131825	igf1	Insulin-like growth factor 1
40	Dr.8145	NM_131433	igf2a	Insulin-like growth factor 2a
41	Dr.162566	NM_001261449	il6	Interleukin 6 (interferon, beta 2)
42	Dr.3152	XM_682610	irs1	Insulin receptor substrate 1-B-like
43	Dr.83677	NM_131861	jag1a	Jagged 1a
44	N/A	XM_001344880	klf5a	Kruppel-like factor 5-like
45	Dr.64686	NM_131426	lef1	Lymphocyte enhancer binding factor 1
46	N/A	XM_005173564	dlk1	Delta like non-canonical Notch ligand 1
47	N/A	XM_009297027	LOC101886435	Inactive dipeptidyl peptidase 10-like
48	Dr.105708	XM_005162219	lrp1	Similar to alpha-2-macroglobulin receptor
49	Dr.120756	NM_001007124	met	Met proto-oncogene (hepatocyte growth factor receptor)
50	Dr.81296	NM_130923	mitfa	Microphthalmia-associated transcription factor a
51	Dr.76397	NM_198067	mmp2	Matrix metalloproteinase 2
52	Dr.76275	NM_213123	mmp9	Matrix metalloproteinase 9
53	Dr.1	NM_131412	myca	Myelocytomatosis oncogene a
54	Dr.46544	NM_001098392	nanog	Zgc:193933
55	Dr.88100	NM_001044805	nrcama	Neuronal cell adhesion molecule
56	Dr.133652	NM_001040326	nrp1a	Neuropilin 1a
57	Dr.122048	NM_001197161	ntrk2b	Neurotrophic tyrosine kinase, receptor, type 2b
58	Dr.75077	NM_131459	pdgfra	Platelet derived growth factor receptor alpha
59	Dr.81292	NM_130975	pitx2	Paired-like homeodomain transcription factor 2
60	Dr.258	NM_131112	pou5f3	POU domain, class 5, transcription factor 1
61	Dr.131231	XM_001919526	ppap2b	Phosphatidic acid phosphatase type 2B
62	Dr.27180	NM_131468	ppardb	Peroxisome proliferator-activated receptor delta b
63	Dr.81263	NM_001305542	ptch1	Patched 1
64	Dr.113864	NM_153657	ptgs2a	Prostaglandin-endoperoxide synthase 2a
65	Dr.30423	NM_212862	runx2b	Runt-related transcription factor 2b
66	Dr.76476	NM_001077384	sfrp2	Secreted frizzled-related protein 2
67	N/A	XM_005170536	si:dkey-42p8.3	Transducin-like enhancer of split 1 (E(sp1) homolog, Drosophila)
68	Dr.27681	NM_207095	six1b	Sine oculis homeobox homolog 1b
69	Dr.114683	NM_131027	smo	Smoothed homolog (Drosophila)
70	Dr.5379	NM_213118	sox2	SRY-box containing gene 2
71	Dr.80814	NM_131643	sox9a	SRY-box containing gene 9a
72	Dr.1468	NM_131162	ta	No tail a
73	Dr.153729	XM_009301658	tcf4	Transcription factor 4
74	Dr.134827	NM_001012389	tcf7	Transcription factor 7 (T-cell specific, HMG-box)
75	Dr.79155	NM_131269	tcf7l1a	Transcription factor 7-like 1a (T-cell specific, HMG-box)
76	Dr.67692	NM_131259	tcf7l2	Transcription factor 7-like 2 (T-cell specific, HMG-box)
77	Dr.116110	NM_194386	tgfb3	Transforming growth factor, beta 3
78	Dr.79620	NM_130984	twist1a	Twist1a

Position	UniGene	GenBank	Symbol	Description
79	Dr.150231	NM_001110349	vegfaa	Vascular endothelial growth factor Aa
80	Dr.149255	NM_001166230	wisp1a	WNT1 inducible signaling pathway protein 1a
81	Dr.85127	NM_001199101	wisp2	WNT1 inducible signaling pathway protein 2
82	Dr.92208	NM_001007185	wnt3a	Wingless-type MMTV integration site family, member 3A
83	Dr.108590	NM_001079834	wnt5a	Wingless-type MMTV integration site family, member 5a
84	Dr.92789	NM_001045363	wnt9a	Wingless-type MMTV integration site family, member 9A
85	Dr.47173	NM_214784	acta1b	Actin, alpha 1b, skeletal muscle
86	Dr.51646	NM_001159768	b2m	Beta-2-microglobulin
87	Dr.77915	NM_212986	hprt1	Hypoxanthine phosphoribosyltransferase 1
88	Dr.150274	NM_201579	nono	Non-POU domain containing, octamer-binding
89	Dr.32450	NM_212784	rpl13a	Ribosomal protein L13a
90	N/A zebrafish	SA_00143	ZGDC	Zebrafish Genomic DNA Contamination
91	N/A	SA_00104	RTC	Reverse Transcription Control
92	N/A	SA_00104	RTC	Reverse Transcription Control
93	N/A	SA_00104	RTC	Reverse Transcription Control
94	N/A	SA_00103	PPC	Positive PCR Control
95	N/A	SA_00103	PPC	Positive PCR Control
96	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 ROX [™] FAST Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers	330620

* 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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