RT² Profiler PCR Array (Rotor-Gene® Format)

Zebrafish WNT Signaling

Cat. no. 330231 PAZF-043ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Zebrafish WNT Signaling Pathway RT² Profiler PCR Array profiles the expression of 84 genes related to WNT-mediated signal transduction. The WNT family of secreted growth factors regulates the developmental processes of cell fate and polarity, as well as general cell maintenance processes such as homeostasis and cell cycle regulation. There are 19 WNT ligands in humans, which bind to the Frizzled (FZD) family of receptors and the co-receptors LRP5 and LRP6. WNT signaling comprises three pathways: the canonical pathway and two non-canonical pathways, planar cell polarity (PCP) and a calcium ion-dependent pathway. The well-studied canonical WNT pathway signals through ß-catenin and regulates the cell cycle, cell growth, and proliferation. The PCP pathway regulates cytoskeletal dynamics and cell motility, and the WNT/calcium pathway promotes NFAT transcription, both independently of ß-catenin signaling. This array contains WNT signaling ligands and receptors as well as other downstream signaling molecules for all three pathways. In addition, regulators of WNT signaling are included as well as downstream target genes. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to WNT-mediated signal transduction 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 cycler (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.81641	NM_200423	aes	Amino-terminal enhancer of split
2	Dr.76198	NM_001143840	apc	Adenomatosis polyposis coli
3	Dr.80549	NM_131503	axin1	Axin 1
4	Dr.3727	NM_131561	axin2	Axin 2 (conductin, axil)
5	Dr.79924	NM_001005604	bcl9	Si:ch73-15j19.1
6	Dr.45837	NM_001076712	bod1	Biorientation of chromosomes in cell division 1
7	Dr.76175	NM_213351	calm1a	Calmodulin 1a
8	Dr.75056	NM_131025	ccnd1	Cyclin D1
9	Dr.159818	NM_001089445	ccnd2a	Cyclin D2, a
10	Dr.78655	NM_212678	chsy1	Chondroitin sulfate synthase 1
11	Dr.132291	NM_152951	csnk1a1	Casein kinase 1, alpha 1
12	Dr.75097	NM_131252	csnk2a1	Casein kinase 2, alpha 1 polypeptide
13	Dr.158910	NM_131714	ctbp1	C-terminal binding protein 1
14	Dr.120367	NM_131059	ctnnb1	Catenin (cadherin-associated protein), beta 1
15	Dr.120421	NM_131594	ctnnbip1	Catenin, beta interacting protein 1
16	Dr.11571	NM_152948	cxadr	Coxsackie virus and adenovirus receptor
17	Dr.79965	NM_001077602	cyp4v8	Cytochrome P450, family 4, subfamily V, polypeptide 2
18	Dr.133393	XM_005158655	daam1a	Dishevelled associated activator of morphogenesis 1a
19	Dr.79878	NM_205757	dab2	Disabled homolog 2 (Drosophila)
20	Dr.117628	NM_001281800	dkk1a	Dickkopf 1a
21	Dr.81804	NM_001089545	dkk3b	Dickkopf homolog 3 (Xenopus laevis)
22	Dr.120498	XM_693275	dvl1a	Dishevelled, dsh homolog 1a (Drosophila)
23	Dr.83182	NM_212648	dvl2	Dishevelled, dsh homolog 2 (Drosophila)
24	Dr.156027	XM_009306693	ep300a	E1A binding protein p300 a
25	Dr.78612	NM_201310	fbxw11a	F-box and WD-40 domain protein 11a
26	Dr.79594	NM_131635	fgf4	Fibroblast growth factor 4
27	Dr.84030	NM_001161552	fosl1a	FOS-like antigen 1
28	Dr.81280	NM_130943	frzb	Frizzled-related protein
29	Dr.148362	NM_001130614	fzd1	Zgc:194761
30	Dr.12607	NM_131140	fzd2	Frizzled homolog 2
31	Dr.81883	NM_001042761	fzd3a	Frizzled homolog 3a
32	Dr.78384	XM_005173425	fzd4	Frizzled homolog 4
33	Dr.81286	NM_131134	fzd5	Frizzled homolog 5
34	Dr.121084	NM_200561	fzd6	Frizzled homolog 6 (Drosophila)
35	Dr.4823	NM_131139	fzd7a	Frizzled homolog 7a
36	Dr.32845	NM_130918	fzd8a	Frizzled homolog 8a
37	N/A	XM_003198686	fzd9a	Frizzled homolog 9 (Drosophila)
38	Dr.82778	NM_001044921	gsk3aa	Si:ch211-39e15.2

Position	UniGene	GenBank	Symbol	Description
39	Dr.107139	NM_131381	gsk3b	Glycogen synthase kinase 3 beta
40	Dr.1064	NM_199987	jun	Jun proto-oncogene
41	Dr.107566	NM_001114917	kremen1	Si:dkeyp-7c9.1
42	Dr.64686	NM_131426	lef1	Lymphocyte enhancer binding factor 1
43	Dr.105028	NM_001177458	lrp5	Low density lipoprotein receptor-related protein 5
44	Dr.88486	NM_001134684	lrp6	Low-density lipoprotein receptor-related protein 6
45	Dr.149022	NM_001110389	mapk8a	Mitogen-activated protein kinase 8a
46	Dr.16634	NM_200686	mtfp1	Zgc:63910
47	Dr.89033	NM_001123252	mtss1	Metastasis suppressor 1
48	Dr.1	NM_131412	myca	Myelocytomatosis oncogene a
49	N/A	XM_002662791	nav2	Neuron navigator 2
50	Dr.89152	NM_001045159	nfatc1	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 1
51	Dr.135817	NM_001043333	nkd1	Naked cuticle homolog 1 (Drosophila)
52	Dr.150532	NM_212956	nlk1	Nemo like kinase, type 1
53	Dr.81292	NM_130975	pitx2	Paired-like homeodomain transcription factor 2
54	Dr.148309	NM_001126481	porcn	Novel protein similar to vertebrate porcupine homolog
55	Dr.77171	XM_005168286	pparda	Peroxisome proliferator-activated receptor delta a
56	Dr.24985	NM_183342	prickle1a	Prickle-like 1 (Drosophila) a
57	Dr.84227	NM_001163988	prmt6	Protein arginine methyltransferase 6
58	Dr.112566	NM_001113637	pygo1	Pygopus homolog 1 (Drosophila)
59	Dr.32765	NM_213137	rhoaa	Ras homolog gene family, member Aa
60	Dr.77619	NM_173835	ruvbl1	RuvB-like 1 (E. coli)
61	Dr.105557	NM_205585	sfrp1a	Secreted frizzled-related protein 1a
62	Dr.72345	NM_001082837	skp2	S-phase kinase-associated protein 2 (p45)
63	Dr.81308	NM_131287	sox17	SRY-box containing gene 17
64	Dr.134827	NM_001012389	tcf7	Transcription factor 7 (T-cell specific, HMG-box)
65	Dr.79155	NM_131269	tcf7l1a	Transcription factor 7-like 1a (T-cell specific, HMG-box)
66	Dr.91583	NM_153674	vangl2	Vang-like 2 (van gogh, Drosophila)
67	Dr.3690	NM_131229	wif1	Wnt inhibitory factor 1
68	Dr.149255	NM_001166230	wisp1a	WNT1 inducible signaling pathway protein 1a
69	Dr.85371	NM_001201398	wnt1	Wingless-type MMTV integration site family, member 1
70	Dr.342	NM_130980	wnt10a	Wingless-type MMTV integration site family, member 10a
71	Dr.75830	NM_001144804	wnt11	Wingless-type MMTV integration site family, member 11
72	Dr.87285	NM_001100046	wnt16	Wingless-type MMTV integration site family, member 16
73	Dr.378	NM_130950	wnt2	Wingless-type MMTV integration site family member 2
74	Dr.88309	NM_182876	wnt2ba	Wingless-type MMTV integration site family, member 2Ba
75	Dr.143523	NM_001114552	wnt3	Wingless-type MMTV integration site family, member 3
76	Dr.92208	NM_001007185	wnt3a	Wingless-type MMTV integration site family, member 3A
77	Dr.385	NM_001040387	wnt4a	Wingless-type MMTV integration site family, member 4a
78	Dr.108590	NM_001079834	wnt5a	Wingless-type MMTV integration site family, member 5a

Position	UniGene	GenBank	Symbol	Description
79	Dr.389	NM_130937	wnt5b	Wingless-type MMTV integration site family, member 5b
80	N/A	XM_003199189	wnt6b	Novel protein similar to vertebrate wingless-type MMTV integration site family, member 6 (WNT6)
81	Dr.40153	NM_001025540	wnt7aa	Wingless-type MMTV integration site family, member 7Aa
82	N/A	XM_686786	wnt7ba	Wingless-type MMTV integration site family, member 7Ba
83	Dr.309	NM_130946	wnt8a	Wingless-type MMTV integration site family, member 8a
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.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² 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.

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