

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

Rat WNT Signaling Pathway

Cat. no. 330231 PARN-043ZA

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™



Description

The Rat 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 Rats, 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 β -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 β -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 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	Apc	Axin1	Axin2	Bcl9	Btrc	Vangl2	Cby1	Ccnd1	Ccnd2	Csnk1a1	Csnk2a1	Ctnnb1
B	Daam1	Dab2	Dixdc1	Dkk1	Dkk3	Dkk4	Dvl1	Dvl2	Ep300	Fbxw11	Fgf4	Fosl1
C	Frzb	Fzd1	Fzd2	Fzd3	Fzd4	Fzd5	Fzd6	Fzd7	Fzd9	Gsk3a	Gsk3b	Jun
D	Kremen1	Kremen2	Lef1	Lrp5	Lrp6	Mapk8	Mif	Mmp7	Myc	Nkd1	Nkd2	Pitx2
E	Porcn	Ppard	Prickle1	Pygo2	Rac1	RGD1561440	Rhoa	Sfrp1	Sfrp2	Sfrp4	Sfrp5	Tcf3
F	Tcf4	Tcf7	Tcf2a	Tle1	Wif1	Wisp1	Wnt1	Wnt10a	Wnt10b	Wnt11	Wnt2	Wnt2b
G	Wnt3	Wnt3a	Wnt4	Wnt5a	Wnt5b	Wnt6	Wnt7a	Wnt7b	Wnt8a	Wnt8b	Wnt9a	Wnt9b
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.88057	NM_012499	Apc	Adenomatous polyposis coli
A02	Rn.31781	NM_024405	Axin1	Axin 1
A03	Rn.162212	NM_024355	Axin2	Axin 2
A04	Rn.264	NM_001107703	Bcl9	B-cell CLL/lymphoma 9
A05	Rn.21800	NM_001007148	Btrc	Beta-transducin repeat containing
A06	Rn.198958	NM_001105969	Vangl2	Vang-like 2 (van gogh, Drosophila)
A07	Rn.3025	NM_145676	Cby1	Chibby homolog 1 (Drosophila)
A08	Rn.22279	NM_171992	Ccnd1	Cyclin D1
A09	Rn.96083	NM_022267	Ccnd2	Cyclin D2
A10	Rn.23810	NM_053615	Csnk1a1	Casein kinase 1, alpha 1
A11	Rn.4231	NM_053824	Csnk2a1	Casein kinase 2, alpha 1 polypeptide
A12	Rn.112601	NM_053357	Ctnnb1	Catenin (cadherin associated protein), beta 1
B01	Rn.92012	NM_001108030	Daam1	Dishevelled associated activator of morphogenesis 1
B02	Rn.161784	NM_024159	Dab2	Disabled homolog 2 (Drosophila)
B03	Rn.8331	NM_001037654	Dixdc1	DIX domain containing 1
B04	Rn.214343	NM_001106350	Dkk1	Dickkopf homolog 1 (Xenopus laevis)
B05	Rn.12516	NM_138519	Dkk3	Dickkopf homolog 3 (Xenopus laevis)
B06	Rn.44861	NM_001109332	Dkk4	Dickkopf homolog 4 (Xenopus laevis)
B07	Rn.144610	NM_031820	Dvl1	Dishevelled, dsh homolog 1 (Drosophila)
B08	Rn.22921	NM_001172056	Dvl2	Dishevelled 2
B09	Rn.12447	XM_576312	Ep300	E1A binding protein p300
B10	Rn.159760	NM_001106993	Fbxw11	F-box and WD repeat domain containing 11
B11	Rn.81223	NM_053809	Fgf4	Fibroblast growth factor 4
B12	Rn.11306	NM_012953	Fosl1	Fos-like antigen 1
C01	Rn.12034	NM_001100527	Frzb	Frizzled-related protein
C02	Rn.6575	NM_021266	Fzd1	Frizzled homolog 1 (Drosophila)
C03	Rn.92324	NM_172035	Fzd2	Frizzled homolog 2 (Drosophila)
C04	Rn.178695	NM_153474	Fzd3	Frizzled homolog 3 (Drosophila)
C05	Rn.48736	NM_022623	Fzd4	Frizzled homolog 4 (Drosophila)
C06	Rn.24792	NM_173838	Fzd5	Frizzled homolog 5 (Drosophila)
C07	Rn.2740	NM_001130536	Fzd6	Frizzled homolog 6 (Drosophila)
C08	Rn.1806	XM_237191	Fzd7	Frizzled homolog 7 (Drosophila)
C09	Rn.96335	NM_153305	Fzd9	Frizzled homolog 9 (Drosophila)
C10	Rn.36807	NM_017344	Gsk3a	Glycogen synthase kinase 3 alpha
C11	Rn.10426	NM_032080	Gsk3b	Glycogen synthase kinase 3 beta
C12	Rn.93714	NM_021835	Jun	Jun oncogene
D01	Rn.90021	NM_053649	Kremen1	Kringle containing transmembrane protein 1
D02	Rn.218464	NM_001105767	Kremen2	Kringle containing transmembrane protein 2
D03	Rn.21926	NM_130429	Lef1	Lymphoid enhancer binding factor 1
D04	Rn.12698	NM_001106321	Lrp5	Low density lipoprotein receptor-related protein 5
D05	Rn.32960	NM_001107892	Lrp6	Low density lipoprotein receptor-related protein 6
D06	Rn.4090	XM_341399	Mapk8	Mitogen-activated protein kinase 8
D07	Rn.207359	NM_001191089	Mif	Microphthalmia-associated transcription factor
D08	Rn.10282	NM_012864	Mmp7	Matrix metalloproteinase 7
D09	Rn.12072	NM_012603	Myc	Myelocytomatosis oncogene

Position	UniGene	GenBank	Symbol	Description
D10	Rn.8826	NM_001108894	Nkd1	Naked cuticle homolog 1 (Drosophila)
D11	Rn.198099	NM_001107454	Nkd2	Naked cuticle homolog 2 (Drosophila)
D12	Rn.17591	NM_019334	Pitx2	Paired-like homeodomain 2
E01	Rn.63525	XM_228781	Porcn	Porcupine homolog (Drosophila)
E02	Rn.96181	NM_013141	Ppard	Peroxisome proliferator-activated receptor delta
E03	Rn.141040	NM_199396	Prickle1	Prickle homolog 1 (Drosophila)
E04	Rn.24988	NM_001106447	Pygo2	Pygopus 2
E05	Rn.29157	NM_134366	Rac1	Ras-related C3 botulinum toxin substrate 1
E06	Rn.198948	XM_344122	RGD1561440	Similar to nemo like kinase
E07	Rn.107401	NM_057132	Rhoa	Ras homolog gene family, member A
E08	Rn.163333	XM_224987	Sfrp1	Secreted frizzled-related protein 1
E09	Rn.102416	NM_001100700	Sfrp2	Secreted frizzled-related protein 2
E10	Rn.10788	NM_053544	Sfrp4	Secreted frizzled-related protein 4
E11	Rn.40184	NM_001107591	Sfrp5	Secreted frizzled-related protein 5
E12	Rn.33103	NM_001107865	Tcf3	Transcription factor 3
F01	Rn.23354	NM_053369	Tcf4	Transcription factor 4
F02	Rn.106335	XM_343891	Tcf7	Transcription factor 7, T-cell specific
F03	Rn.10290	NM_133524	Tcfe2a	Transcription factor E2a
F04	Rn.6875	XM_342851	Tle1	Transducin-like enhancer of split 1 (E(sp1) homolog, Drosophila)
F05	Rn.74256	NM_053738	Wif1	Wnt inhibitory factor 1
F06	Rn.63486	NM_031716	Wisp1	WNT1 inducible signaling pathway protein 1
F07	Rn.138108	NM_001105714	Wnt1	Wingless-type MMTV integration site family, member 1
F08	Rn.18155	NM_001108227	Wnt10a	Wingless-type MMTV integration site family, member 10A
F09	Rn.218544	NM_001108111	Wnt10b	Wingless-type MMTV integration site family, member 10B
F10	Rn.55941	NM_080401	Wnt11	Wingless-type MMTV integration site family, member 11
F11	Rn.203764	XM_575397	Wnt2	Wingless-type MMTV integration site family member 2
F12	Rn.17219	XM_342308	Wnt2b	Wingless-type MMTV integration site family, member 2B
G01	Rn.148140	NM_001105715	Wnt3	Wingless-type MMTV integration site family, member 3
G02	Rn.218621	XM_220546	Wnt3a	Wingless-type MMTV integration site family, member 3A
G03	Rn.34782	NM_053402	Wnt4	Wingless-type MMTV integration site family, member 4
G04	Rn.48749	NM_022631	Wnt5a	Wingless-type MMTV integration site family, member 5A
G05	Rn.58724	NM_001100489	Wnt5b	Wingless-type MMTV integration site family, member 5B
G06	Rn.22149	NM_001108226	Wnt6	Wingless-type MMTV integration site family, member 6
G07	Rn.160583	XM_342723	Wnt7a	Wingless-type MMTV integration site family, member 7A
G08	Rn.129727	NM_001009695	Wnt7b	Wingless-type MMTV integration site family, member 7B
G09	Rn.218696	NM_001106155	Wnt8a	Wingless-type MMTV integration site family, member 8A
G10	Rn.58872	NM_001106359	Wnt8b	Wingless-type MMTV integration site family, member 8B
G11	Rn.40411	NM_001105783	Wnt9a	Wingless-type MMTV integration site family, member 9A
G12	Rn.16625	NM_001107055	Wnt9b	Wingless-type MMTV integration site family, member 9B
H01	Rn.94978	NM_031144	Actb	Actin, beta
H02	Rn.1868	NM_012512	B2m	Beta-2 microglobulin
H03	Rn.47	NM_012583	Hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H06	N/A	U26919	RGDC	Rat 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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