

# RT<sup>2</sup> Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

## Rat TNF Signaling Pathway

Cat. no. 330231 PARN-063ZA

For pathway expression analysis

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



Sample & Assay Technologies

## Description

The Rat TNF Signaling Pathway RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 genes whose expression is controlled by or involved in the TNF ligand and TNF receptor signaling pathways. Members of the TNF Superfamily and TNF Receptor Superfamily are represented on this array. Genes involved in the TNFR1 and TNFR2 Signaling Pathways are also included. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to the TNF signaling with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

## Shipping and storage

RT<sup>2</sup> 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. RT<sup>2</sup> 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 RT<sup>2</sup> Profiler PCR Array format for your real-time cycler (see table above).

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

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## Array layout (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT<sup>2</sup> Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
<b>A</b>	Agfg1	Apaf1	Arhgdib	Bag4	Bcl2	Bid	Cad	Casp2	Casp3	Casp8	Cd27	Cd40
<b>B</b>	Cd40lg	Cd70	Cflar	Chuk	Cycs	Dffa	Dusp1	Fadd	Faf1	Fas	Faslg	Fbf1
<b>C</b>	Ikbbp	Ikbbk	Ikbbg	Jun	Lmna	Lmnb1	Lta	Ltb	Ltbr	Madd	Map2k4	Map3k1
<b>D</b>	Map3k14	Map3k7	Map3k7ip1	Mapk8	Nfkb1	Nfkbia	Ngfr	Ngfrap1	Pak1	Pak2	Parp1	Pglyrp1
<b>E</b>	Prkdc	Psmg2	Rb1	Relt	Ripk1	Splan1	Tank	Tnf	Tnfrsf10b	Tnfrsf11b	Tnfrsf12a	Tnfrsf13c
<b>F</b>	Tnfrsf14	Tnfrsf17	Tnfrsf1a	Tnfrsf1b	Tnfrsf21	Tnfrsf25	Tnfrsf4	Tnfrsf8	Tnfrsf9	Tnfrsf10	Tnfrsf11	Tnfrsf12
<b>G</b>	Tnfrsf13	Tnfrsf14	Tnfrsf15	Tnfrsf18	Tnfrsf4	Tnfrsf9	Tradd	Traf2	Traf3	Traf4	Traf6	Traf7
<b>H</b>	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

## Gene table: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.3734	NM_001135596	Agfg1	ArfGAP with FG repeats 1
A02	Rn.64522	NM_023979	Apaf1	Apoptotic peptidase activating factor 1
A03	Rn.15842	NM_001009600	Arhgdib	Rho, GDP dissociation inhibitor (GDI) beta
A04	Rn.163329	NM_001025130	Bag4	BCL2-associated athanogene 4
A05	Rn.9996	NM_016993	Bcl2	B-cell CLL/lymphoma 2
A06	Rn.31142	NM_022684	Bid	BH3 interacting domain death agonist
A07	Rn.19416	NM_001105710	Cad	Carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase
A08	Rn.1438	NM_022522	Casp2	Caspase 2
A09	Rn.10562	NM_012922	Casp3	Caspase 3
A10	Rn.54474	NM_022277	Casp8	Caspase 8
A11	Rn.134200	NM_001024335	Cd27	CD27 molecule
A12	Rn.25180	NM_134360	Cd40	CD40 molecule, TNF receptor superfamily member 5
B01	Rn.44218	NM_053353	Cd40lg	CD40 ligand
B02	Rn.103013	NM_001106878	Cd70	Cd70 molecule
B03	Rn.204752	NM_057138	Cflar	CASP8 and FADD-like apoptosis regulator
B04	Rn.23019	NM_001107588	Chuk	Conserved helix-loop-helix ubiquitous kinase
B05	Rn.2202	NM_012839	Cycs	Cytochrome c, somatic
B06	Rn.6514	NM_053679	Dffa	DNA fragmentation factor, alpha subunit
B07	Rn.98260	NM_053769	Dusp1	Dual specificity phosphatase 1
B08	Rn.16183	NM_152937	Fadd	Fas (TNFRSF6)-associated via death domain
B09	Rn.203087	NM_130406	Faf1	Fas (TNFRSF6) associated factor 1
B10	Rn.162521	NM_139194	Fas	Fas (TNF receptor superfamily, member 6)
B11	Rn.9725	NM_012908	Faslg	Fas ligand (TNF superfamily, member 6)
B12	Rn.206391	NM_001105854	Fbf1	Fas (TNFRSF6) binding factor 1
C01	Rn.162816	NM_080899	Ikbbp	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase complex-associated protein
C02	Rn.19222	NM_053355	Ikbbk	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
C03	Rn.214715	NM_199103	Ikbbg	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase gamma
C04	Rn.93714	NM_021835	Jun	Jun oncogene
C05	Rn.44161	NM_001002016	Lmna	Lamin A
C06	Rn.11362	NM_053905	Lmnb1	Lamin B1
C07	Rn.160577	NM_080769	Lta	Lymphotoxin alpha (TNF superfamily, member 1)
C08	Rn.203016	NM_212507	Ltb	Lymphotoxin beta (TNF superfamily, member 3)
C09	Rn.19329	NM_001008315	Ltbr	Lymphotoxin beta receptor (TNFR superfamily, member 3)
C10	Rn.90117	NM_053585	Madd	MAP-kinase activating death domain
C11	Rn.198875	NM_001030023	Map2k4	Mitogen activated protein kinase kinase 4
C12	Rn.11081	NM_053887	Map3k1	Mitogen activated protein kinase kinase kinase 1
D01	Rn.47167	NM_001108301	Map3k14	Mitogen-activated protein kinase kinase kinase 14
D02	Rn.24019	NM_001107920	Map3k7	Mitogen activated protein kinase kinase kinase 7
D03	Rn.17231	NM_001109976	Map3k7ip1	Mitogen-activated protein kinase kinase kinase 7 interacting protein 1
D04	Rn.4090	XM_341399	Mapk8	Mitogen-activated protein kinase 8
D05	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
D06	Rn.12550	NM_001105720	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha

Position	UniGene	GenBank	Symbol	Description
D07	Rn.10980	NM_012610	Ngfr	Nerve growth factor receptor (TNFR superfamily, member 16)
D08	Rn.3126	NM_053401	Ngfrap1	Nerve growth factor receptor (TNFRSF16) associated protein 1
D09	Rn.9149	NM_017198	Pak1	P21 protein (Cdc42/Rac)-activated kinase 1
D10	Rn.3840	NM_053306	Pak2	P21 protein (Cdc42/Rac)-activated kinase 2
D11	Rn.11327	NM_013063	Parp1	Poly (ADP-ribose) polymerase 1
D12	Rn.2834	NM_053373	Pglyrp1	Peptidoglycan recognition protein 1
E01	Rn.24110	NM_001108327	Prkdc	Protein kinase, DNA activated, catalytic polypeptide
E02	Rn.144759	NM_001106138	Psmg2	Proteasome (prosome, macropain) assembly chaperone 2
E03	Rn.55115	NM_017045	Rb1	Retinoblastoma 1
E04	Rn.16770	NM_001108495	Relt	RELT tumor necrosis factor receptor
E05	Rn.7572	NM_001107350	Ripk1	Receptor (TNFRSF)-interacting serine-threonine kinase 1
E06	Rn.5812	NM_171983	Sptan1	Spectrin, alpha, non-erythrocytic 1
E07	Rn.89906	NM_145788	Tank	TRAF family member-associated NFkB activator
E08	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
E09	Rn.105558	NM_001108873	Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b
E10	Rn.202973	NM_012870	Tnfrsf11b	Tumor necrosis factor receptor superfamily, member 11b
E11	Rn.105040	NM_181086	Tnfrsf12a	Tumor necrosis factor receptor superfamily, member 12a
E12	Rn.198243	XM_001077542	Tnfrsf13c	Tumor necrosis factor receptor superfamily, member 13c
F01	Rn.14734	NM_001015034	Tnfrsf14	Tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator)
F02	Rn.17380	NM_001105761	Tnfrsf17	Tumor necrosis factor receptor superfamily, member 17
F03	Rn.11119	NM_013091	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
F04	Rn.83633	NM_130426	Tnfrsf1b	Tumor necrosis factor receptor superfamily, member 1b
F05	Rn.98293	NM_001108207	Tnfrsf21	Tumor necrosis factor receptor superfamily, member 21
F06	Rn.106560	NM_001137644	Tnfrsf25	Tumor necrosis factor receptor superfamily, member 25
F07	Rn.48883	NM_013049	Tnfrsf4	Tumor necrosis factor receptor superfamily, member 4
F08	Rn.11322	NM_019135	Tnfrsf8	Tumor necrosis factor receptor superfamily, member 8
F09	Rn.22307	NM_001025773	Tnfrsf9	Tumor necrosis factor receptor superfamily, member 9
F10	Rn.83627	NM_145681	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
F11	Rn.64517	NM_057149	Tnfsf11	Tumor necrosis factor (ligand) superfamily, member 11
F12	Rn.3211	NM_001001513	Tnfsf12	Tumor necrosis factor ligand superfamily member 12
G01	Rn.19955	NM_001009623	Tnfsf13	Tumor necrosis factor (ligand) superfamily, member 13
G02	N/A	XM_236794	Tnfsf14	Tumor necrosis factor (ligand) superfamily, member 14
G03	Rn.84873	NM_145765	Tnfsf15	Tumor necrosis factor (ligand) superfamily, member 15
G04	N/A	XM_344166	Tnfsf18	Tumor necrosis factor (ligand) superfamily, member 18
G05	Rn.30043	NM_053552	Tnfsf4	Tumor necrosis factor (ligand) superfamily, member 4
G06	Rn.185237	NM_181384	Tnfsf9	Tumor necrosis factor (ligand) superfamily, member 9
G07	Rn.18545	NM_001100480	Tradd	TNFRSF1A-associated via death domain
G08	Rn.105232	NM_001107815	Traf2	Tnf receptor-associated factor 2
G09	Rn.12033	NM_001108724	Traf3	Tnf receptor-associated factor 3
G10	Rn.3219	NM_001107017	Traf4	Tnf receptor associated factor 4
G11	Rn.220435	NM_001107754	Traf6	Tnf receptor-associated factor 6
G12	Rn.163128	NM_001127548	Traf7	Tnf receptor-associated factor 7
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, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> 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 <sup>2</sup> SYBR Green ROX <sup>™</sup> 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 <sup>2</sup> 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.

RT<sup>2</sup> 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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