

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

## Rat Inflammasomes

Cat. no. 330231 PARN-097ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array, Format A	Applied Biosystems <sup>®</sup> models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad <sup>®</sup> models iCycler <sup>®</sup> , iQ™ 5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf <sup>®</sup> Mastercycler <sup>®</sup> ep realplex models 2, 2s, 4, 4s; Stratagene <sup>®</sup> models Mx3005P <sup>®</sup> , Mx3000P <sup>®</sup> ; 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 <sup>®</sup> , DNA Engine Opticon 2; Stratagene Mx4000 <sup>®</sup>
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 <sup>®</sup> LightCycler <sup>®</sup> 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 <sup>®</sup> BioMark™



Sample & Assay Technologies

## Description

The Rat Inflammasomes RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes involved in the function of inflammasomes, protein complexes involved in innate immunity, as well as general NOD-like receptor (NLR) signaling. NLRs represent a major class of cytosolic pattern recognition receptors (PRR) that, like their cell-surface Toll-Like Receptor counterparts, recognize a wide variety of microbial pathogens and immunogenic biological products. Activation of one of four PRR family members (AIM2, NLRC4 or IPAF, NLRP1, and NLRP3) initiates the formation of an inflammasome. These protein complexes in turn activate caspase-1, leading to up-regulation of the pro-inflammatory cytokines IL1B and IL18 and pyroptosis, or caspase-1-dependent programmed cell death. This array includes genes encoding inflammasome components as well as genes involved in downstream signaling and inhibition of inflammasome function. In addition, this array includes other NLR family members, which may potentially form additional inflammasomes, and their downstream signaling genes. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in inflammasome and NLR function and 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>	Bcl2	Bcl2l1	Birc2	Birc3	Card6	Casp1	Casp12	Casp8	Ccl11	Ccl12	Ccl2	Ccl5
<b>B</b>	Ccl7	Cd40lg	Cflar	Chuk	Ciita	Ctsb	Cxcl1	Cxcl3	Fadd	Hsp90aa1	Hsp90ab1	Hsp90b1
<b>C</b>	Ifnb1	Ifng	Ikbkb	Ikbkg	Il12a	Il12b	Il18	Il1b	Il33	Il6	Irak1	Irf1
<b>D</b>	Irf2	Irf3	Irf4	Irf5	Irf6	Map3k7	Map3k7ip1	Map3k7ip2	Mapk1	Mapk11	Mapk12	Mapk13
<b>E</b>	Mapk14	Mapk3	Mapk8	Mapk9	Mefv	Myd88	Naip2	Nfkb1	Nfkbia	Nfkbib	Nlrc4	Nlrp12
<b>F</b>	Nlrp1a	Nlrp3	Nlrp5	Nlrp6	Nlrx1	Nod2	P2rx7	Panx1	Pea15a	Pstpip1	Pigs2	Pycard
<b>G</b>	Rage	Rela	Ripk2	Sugt1	Tirap	Tnf	Tnfsf11	Tnfsf14	Tnfsf4	Traf6	Txnip	Xiap
<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.9996	NM_016993	Bcl2	B-cell CLL/lymphoma 2
A02	Rn.10323	NM_031535	Bcl2l1	Bcl2-like 1
A03	Rn.205955	NM_021752	Birc2	Baculoviral IAP repeat-containing 2
A04	Rn.64578	NM_023987	Birc3	Baculoviral IAP repeat-containing 3
A05	Rn.104526	NM_001106413	Card6	Caspase recruitment domain family, member 6
A06	Rn.37508	NM_012762	Casp1	Caspase 1
A07	Rn.81078	NM_130422	Casp12	Caspase 12
A08	Rn.54474	NM_022277	Casp8	Caspase 8
A09	Rn.10632	NM_019205	Ccl11	Chemokine (C-C motif) ligand 11
A10	Rn.137780	NM_001105822	Ccl12	Chemokine (C-C motif) ligand 12
A11	Rn.4772	NM_031530	Ccl2	Chemokine (C-C motif) ligand 2
A12	Rn.8019	NM_031116	Ccl5	Chemokine (C-C motif) ligand 5
B01	Rn.26815	NM_001007612	Ccl7	Chemokine (C-C motif) ligand 7
B02	Rn.44218	NM_053353	Cd40lg	CD40 ligand
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.162013	NM_053529	Ciita	Class II, major histocompatibility complex, transactivator
B06	Rn.100909	NM_022597	Ctsb	Cathepsin B
B07	Rn.10907	NM_030845	Cxcl1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
B08	Rn.10525	NM_138522	Cxcl3	Chemokine (C-X-C motif) ligand 3
B09	Rn.16183	NM_152937	Fadd	Fas (TNFRSF6)-associated via death domain
B10	Rn.119867	NM_175761	Hsp90aa1	Heat shock protein 90, alpha (cytosolic), class A member 1
B11	Rn.98667	NM_001004082	Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1
B12	Rn.101146	NM_001012197	Hsp90b1	Heat shock protein 90, beta, member 1
C01	Rn.138105	NM_019127	Ifnb1	Interferon beta 1, fibroblast
C02	Rn.10795	NM_138880	Ifng	Interferon gamma
C03	Rn.19222	NM_053355	Ikbkb	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
C04	Rn.214715	NM_199103	Ikbkg	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase gamma
C05	Rn.207199	NM_053390	Il12a	Interleukin 12a
C06	Rn.48686	NM_022611	Il12b	Interleukin 12b
C07	Rn.11118	NM_019165	Il18	Interleukin 18
C08	Rn.9869	NM_031512	Il1b	Interleukin 1 beta
C09	Rn.106849	NM_001014166	Il33	Interleukin 33
C10	Rn.9873	NM_012589	Il6	Interleukin 6
C11	Rn.22238	NM_001127555	Irak1	Interleukin-1 receptor-associated kinase 1
C12	Rn.6396	NM_012591	Irf1	Interferon regulatory factor 1
D01	Rn.107887	NM_001047086	Irf2	Interferon regulatory factor 2
D02	Rn.1499	NM_001006969	Irf3	Interferon regulatory factor 3
D03	Rn.82114	NM_001106108	Irf4	Interferon regulatory factor 4
D04	Rn.203787	NM_001106586	Irf5	Interferon regulatory factor 5
D05	Rn.12385	NM_001108859	Irf6	Interferon regulatory factor 6
D06	Rn.24019	NM_001107920	Map3k7	Mitogen activated protein kinase kinase kinase 7
D07	Rn.17231	NM_001109976	Map3k7ip1	Mitogen-activated protein kinase kinase kinase 7 interacting protein 1
D08	Rn.19523	NM_001012062	Map3k7ip2	Mitogen-activated protein kinase kinase kinase 7 interacting protein 2
D09	Rn.34914	NM_053842	Mapk1	Mitogen activated protein kinase 1

Position	UniGene	GenBank	Symbol	Description
D10	Rn.45869	NM_001109532	Mapk11	Mitogen-activated protein kinase 11
D11	Rn.162968	NM_021746	Mapk12	Mitogen-activated protein kinase 12
D12	Rn.207195	NM_019231	Mapk13	Mitogen activated protein kinase 13
E01	Rn.88085	NM_031020	Mapk14	Mitogen activated protein kinase 14
E02	Rn.2592	NM_017347	Mapk3	Mitogen activated protein kinase 3
E03	Rn.4090	XM_341399	Mapk8	Mitogen-activated protein kinase 8
E04	Rn.9910	NM_017322	Mapk9	Mitogen-activated protein kinase 9
E05	Rn.29105	NM_031634	Mefv	Mediterranean fever
E06	Rn.37341	NM_198130	Myd88	Myeloid differentiation primary response gene 88
E07	Rn.92423	XM_226742	Naip2	NLR family, apoptosis inhibitory protein 2
E08	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E09	Rn.12550	NM_001105720	Nfkb1a	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E10	Rn.8395	NM_030867	Nfkb1b	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, beta
E11	Rn.144882	NM_001106707	Nlr4	NLR family, CARD domain containing 4
E12	Rn.108865	NM_001169142	Nlrp12	NLR family, pyrin domain containing 12
F01	Rn.12490	NM_001145755	Nlrp1a	NLR family, pyrin domain containing 1A
F02	Rn.214177	XM_220513	Nlrp3	NLR family, pyrin domain containing 3
F03	Rn.218519	NM_001107474	Nlrp5	NLR family, pyrin domain containing 5
F04	Rn.9669	NM_134375	Nlrp6	NLR family, pyrin domain containing 6
F05	Rn.12444	NM_001025010	Nlr1	NLR family member X1
F06	Rn.218600	NM_001106172	Nod2	Nucleotide-binding oligomerization domain containing 2
F07	Rn.10510	NM_019256	P2rx7	Purinergic receptor P2X, ligand-gated ion channel, 7
F08	Rn.204521	NM_199397	Panx1	Pannexin 1
F09	Rn.155339	NM_001013231	Pea15a	Phosphoprotein enriched in astrocytes 15A
F10	Rn.6937	NM_001106824	Pstpip1	Proline-serine-threonine phosphatase-interacting protein 1
F11	Rn.44369	NM_017232	Ptgs2	Prostaglandin-endoperoxide synthase 2
F12	Rn.7817	NM_172322	Pycard	PYD and CARD domain containing
G01	Rn.63172	NM_001010965	Rage	Renal tumor antigen
G02	Rn.19480	NM_199267	Rela	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
G03	Rn.102179	XM_342810	Ripk2	Receptor-interacting serine-threonine kinase 2
G04	Rn.101758	NM_001013051	Sugt1	SGT1, suppressor of G2 allele of SKP1 ( <i>S. cerevisiae</i> )
G05	N/A	XM_001055833	Tirap	Toll-interleukin 1 receptor (TIR) domain-containing adaptor protein
G06	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G07	Rn.64517	NM_057149	Tnfsf11	Tumor necrosis factor (ligand) superfamily, member 11
G08	N/A	XM_236794	Tnfsf14	Tumor necrosis factor (ligand) superfamily, member 14
G09	Rn.30043	NM_053552	Tnfsf4	Tumor necrosis factor (ligand) superfamily, member 4
G10	Rn.220435	NM_001107754	Traf6	Tnf receptor-associated factor 6
G11	Rn.2758	NM_001008767	Txnip	Thioredoxin interacting protein
G12	Rn.91239	NM_022231	Xiap	X-linked inhibitor of apoptosis
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™ 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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