

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

## Human Innate & Adaptive Immune Responses

Cat. no. 330231 PAHS-052ZA

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 Human Innate & Adaptive Immune Responses RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 genes involved in the host response to bacterial infection and sepsis. This array includes genes related to the IL-1R and Toll-like Receptor (TLR) Signaling Pathways including IL-1R and TLR genes involved in the detection of pathogens. Genes related to the host defense to bacteria are represented on this array including genes involved in the detection of bacteria, and genes involved in the acute-phase response, complement activation, the inflammatory response, and the antibacterial humoral response. Genes involved in the innate immune response and septic shock are also included on this array. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to the innate and adaptive immune responses 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  $-20^{\circ}\text{C}$ .

**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>	APCS	C3	CASP1	CCL2	CCL5	CCR4	CCR5	CCR6	CCR8	CD14	CD4	CD40
<b>B</b>	CD40LG	CD80	CD86	CD8A	CRP	CSF2	CXCL10	CXCR3	DDX58	FASLG	FOXP3	GATA3
<b>C</b>	HLA-A	HLA-E	ICAM1	IFNA1	IFNAR1	IFNB1	IFNG	IFNGR1	IL10	IL13	IL17A	IL18
<b>D</b>	IL1A	IL1B	IL1R1	IL2	IL23A	IL4	IL5	IL6	IL8	IRAK1	IRF3	IRF7
<b>E</b>	ITGAM	JAK2	LY96	LYZ	MAPK1	MAPK8	MBL2	MPO	MX1	MYD88	NFKB1	NFKBIA
<b>F</b>	NLRP3	NOD1	NOD2	RAG1	RORC	SLC11A1	STAT1	STAT3	STAT4	STAT6	TBX21	TICAM1
<b>G</b>	TLR1	TLR2	TLR3	TLR4	TLR5	TLR6	TLR7	TLR8	TLR9	TNF	TRAF6	TYK2
<b>H</b>	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

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

Position	UniGene	GenBank	Symbol	Description
A01	Hs.507080	NM_001639	APCS	Amyloid P component, serum
A02	Hs.529053	NM_000064	C3	Complement component 3
A03	Hs.2490	NM_033292	CASP1	Caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)
A04	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2
A05	Hs.514821	NM_002985	CCL5	Chemokine (C-C motif) ligand 5
A06	Hs.184926	NM_005508	CCR4	Chemokine (C-C motif) receptor 4
A07	Hs.450802	NM_000579	CCR5	Chemokine (C-C motif) receptor 5
A08	Hs.46468	NM_004367	CCR6	Chemokine (C-C motif) receptor 6
A09	Hs.113222	NM_005201	CCR8	Chemokine (C-C motif) receptor 8
A10	Hs.163867	NM_000591	CD14	CD14 molecule
A11	Hs.631659	NM_000616	CD4	CD4 molecule
A12	Hs.472860	NM_001250	CD40	CD40 molecule, TNF receptor superfamily member 5
B01	Hs.592244	NM_000074	CD40LG	CD40 ligand
B02	Hs.838	NM_005191	CD80	CD80 molecule
B03	Hs.171182	NM_006889	CD86	CD86 molecule
B04	Hs.85258	NM_001768	CD8A	CD8a molecule
B05	Hs.709456	NM_000567	CRP	C-reactive protein, pentraxin-related
B06	Hs.1349	NM_000758	CSF2	Colony stimulating factor 2 (granulocyte-macrophage)
B07	Hs.632586	NM_001565	CXCL10	Chemokine (C-X-C motif) ligand 10
B08	Hs.198252	NM_001504	CXCR3	Chemokine (C-X-C motif) receptor 3
B09	Hs.190622	NM_014314	DDX58	DEAD (Asp-Glu-Ala-Asp) box polypeptide 58
B10	Hs.2007	NM_000639	FASLG	Fas ligand (TNF superfamily, member 6)
B11	Hs.247700	NM_014009	FOXP3	Forkhead box P3
B12	Hs.524134	NM_002051	GATA3	GATA binding protein 3
C01	Hs.181244	NM_002116	HLA-A	Major histocompatibility complex, class I, A
C02	Hs.650174	NM_005516	HLA-E	Major histocompatibility complex, class I, E
C03	Hs.643447	NM_000201	ICAM1	Intercellular adhesion molecule 1
C04	Hs.37026	NM_024013	IFNA1	Interferon, alpha 1
C05	Hs.529400	NM_000629	IFNAR1	Interferon (alpha, beta and omega) receptor 1
C06	Hs.93177	NM_002176	IFNB1	Interferon, beta 1, fibroblast
C07	Hs.856	NM_000619	IFNG	Interferon, gamma
C08	Hs.520414	NM_000416	IFNGR1	Interferon gamma receptor 1
C09	Hs.193717	NM_000572	IL10	Interleukin 10
C10	Hs.845	NM_002188	IL13	Interleukin 13
C11	Hs.41724	NM_002190	IL17A	Interleukin 17A
C12	Hs.83077	NM_001562	IL18	Interleukin 18 (interferon-gamma-inducing factor)
D01	Hs.1722	NM_000575	IL1A	Interleukin 1, alpha
D02	Hs.126256	NM_000576	IL1B	Interleukin 1, beta
D03	Hs.701982	NM_000877	IL1R1	Interleukin 1 receptor, type I
D04	Hs.89679	NM_000586	IL2	Interleukin 2
D05	Hs.98309	NM_016584	IL23A	Interleukin 23, alpha subunit p19
D06	Hs.73917	NM_000589	IL4	Interleukin 4
D07	Hs.2247	NM_000879	IL5	Interleukin 5 (colony-stimulating factor, eosinophil)
D08	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
D09	Hs.624	NM_000584	IL8	Interleukin 8

Position	UniGene	GenBank	Symbol	Description
D10	Hs.522819	NM_001569	IRAK1	Interleukin-1 receptor-associated kinase 1
D11	Hs.75254	NM_001571	IRF3	Interferon regulatory factor 3
D12	Hs.166120	NM_001572	IRF7	Interferon regulatory factor 7
E01	Hs.172631	NM_000632	ITGAM	Integrin, alpha M (complement component 3 receptor 3 subunit)
E02	Hs.656213	NM_004972	JAK2	Janus kinase 2
E03	Hs.660766	NM_015364	LY96	Lymphocyte antigen 96
E04	Hs.524579	NM_000239	LYZ	Lysozyme
E05	Hs.431850	NM_002745	MAPK1	Mitogen-activated protein kinase 1
E06	Hs.138211	NM_002750	MAPK8	Mitogen-activated protein kinase 8
E07	Hs.499674	NM_000242	MBL2	Mannose-binding lectin (protein C) 2, soluble
E08	Hs.458272	NM_000250	MPO	Myeloperoxidase
E09	Hs.517307	NM_002462	MX1	Myxovirus (influenza virus) resistance 1, interferon-inducible protein p78 (mouse)
E10	Hs.82116	NM_002468	MYD88	Myeloid differentiation primary response gene (88)
E11	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E12	Hs.81328	NM_020529	NFKBIA	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
F01	Hs.159483	NM_183395	NLRP3	NLR family, pyrin domain containing 3
F02	Hs.405153	NM_006092	NOD1	Nucleotide-binding oligomerization domain containing 1
F03	Hs.592072	NM_022162	NOD2	Nucleotide-binding oligomerization domain containing 2
F04	Hs.73958	NM_000448	RAG1	Recombination activating gene 1
F05	Hs.256022	NM_005060	RORC	RAR-related orphan receptor C
F06	Hs.591607	NM_000578	SLC11A1	Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1
F07	Hs.642990	NM_007315	STAT1	Signal transducer and activator of transcription 1, 91kDa
F08	Hs.463059	NM_003150	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)
F09	Hs.80642	NM_003151	STAT4	Signal transducer and activator of transcription 4
F10	Hs.524518	NM_003153	STAT6	Signal transducer and activator of transcription 6, interleukin-4 induced
F11	Hs.272409	NM_013351	TBX21	T-box 21
F12	Hs.29344	NM_182919	TICAM1	Toll-like receptor adaptor molecule 1
G01	Hs.654532	NM_003263	TLR1	Toll-like receptor 1
G02	Hs.519033	NM_003264	TLR2	Toll-like receptor 2
G03	Hs.657724	NM_003265	TLR3	Toll-like receptor 3
G04	Hs.174312	NM_138554	TLR4	Toll-like receptor 4
G05	Hs.604542	NM_003268	TLR5	Toll-like receptor 5
G06	Hs.662185	NM_006068	TLR6	Toll-like receptor 6
G07	Hs.659215	NM_016562	TLR7	Toll-like receptor 7
G08	Hs.660543	NM_138636	TLR8	Toll-like receptor 8
G09	Hs.87968	NM_017442	TLR9	Toll-like receptor 9
G10	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G11	Hs.591983	NM_004620	TRAF6	TNF receptor-associated factor 6
G12	Hs.75516	NM_003331	TYK2	Tyrosine kinase 2
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human 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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