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

Human Antibacterial Response

Cat. no. 330231 PAHS-148ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² 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
RT² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT² Profiler PCR Array, Format H	Fluidigm® BioMark™

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Description

The Human Antibacterial Response RT² Profiler PCR Array profiles the expression of 84 key genes involved in innate immune response to bacteria. Three different families of pattern recognition receptors (PRRs) (toll-like (TLRs), Nod-like (NLRs), and RIG-I-like receptors) initiate innate immunity, the inborn general host response to common pathogens such as bacteria. The TLRs, NLRs, and other PRRs recognize bacterial pathogen-associated molecular patterns (PAMPs) including lipopolysaccharide (LPS), peptidoglycan, and flagella. PAMP-receptor binding then activates the innate immune response, initiates downstream signaling, and induces the expression of inflammatory cytokines. Antimicrobial peptides expressed and secreted by immune and epithelial cells also contribute to the innate immune response. They function as chemoattractants for immune cells, directly disrupt pathogen membranes, and seem to also activate some PRR signaling pathways. This array includes genes involved in bacterial-activated PRR signal transduction, encoding downstream effectors important for inflammation and apoptosis, and encoding immune cell-expressed antimicrobial peptides. The results of this array can yield insights into innate immune mechanisms to bacterial pathogens. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in antibacterial response 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	AKT1	APCS	BIRC3	BPI	CAMP	CARD6	CARD9	CASP1	CASP8	CCL3	CCL5	CD14
B	CHUK	CRP	CTSG	CXCL1	CXCL2	DMBT1	FADD	HSP90AA1	IFNA1	IFNB1	IKBKB	IL12A
C	IL12B	IL18	IL1B	IL6	IL8	IRAK1	IRAK3	IRF5	IRF7	JUN	LBP	LCN2
D	LTF	LY96	LYZ	MAP2K1	MAP2K3	MAP2K4	MAP3K7	MAPK1	MAPK14	MAPK3	MAPK8	MEFV
E	MPO	MYD88	NAIP	NFKB1	NFKBIA	NLRC4	NLRP1	NLRP3	NOD1	NOD2	PIK3CA	PRTN3
F	PSTPIP1	PYCARD	RAC1	RELA	RIPK1	RIPK2	SLC11A1	SLPI	SUGT1	TICAM1	TICAM2	TIRAP
G	TLR1	TLR2	TLR4	TLR5	TLR6	TLR9	TNF	TNFRSF1A	TOLLIP	TRAF6	XIAP	ZBP1
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A02	Hs.507080	NM_001639	APCS	Amyloid P component, serum
A03	Hs.127799	NM_001165	BIRC3	Baculoviral IAP repeat containing 3
A04	Hs.529019	NM_001725	BPI	Bactericidal/permeability-increasing protein
A05	Hs.51120	NM_004345	CAMP	Cathelicidin antimicrobial peptide
A06	Hs.200242	NM_032587	CARD6	Caspase recruitment domain family, member 6
A07	Hs.694071	NM_052813	CARD9	Caspase recruitment domain family, member 9
A08	Hs.2490	NM_033292	CASP1	Caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)
A09	Hs.599762	NM_001228	CASP8	Caspase 8, apoptosis-related cysteine peptidase
A10	Hs.514107	NM_002983	CCL3	Chemokine (C-C motif) ligand 3
A11	Hs.514821	NM_002985	CCL5	Chemokine (C-C motif) ligand 5
A12	Hs.163867	NM_000591	CD14	CD14 molecule
B01	Hs.198998	NM_001278	CHUK	Conserved helix-loop-helix ubiquitous kinase
B02	Hs.709456	NM_000567	CRP	C-reactive protein, pentraxin-related
B03	Hs.421724	NM_001911	CTSG	Cathepsin G
B04	Hs.789	NM_001511	CXCL1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
B05	Hs.590921	NM_002089	CXCL2	Chemokine (C-X-C motif) ligand 2
B06	Hs.279611	NM_004406	DMBT1	Deleted in malignant brain tumors 1
B07	Hs.86131	NM_003824	FADD	Fas (TNFRSF6)-associated via death domain
B08	Hs.525600	NM_001017963	HSP90AA1	Heat shock protein 90kDa alpha (cytosolic), class A member 1
B09	Hs.37026	NM_024013	IFNA1	Interferon, alpha 1
B10	Hs.93177	NM_002176	IFNB1	Interferon, beta 1, fibroblast
B11	Hs.597664	NM_001556	IKBKB	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
B12	Hs.673	NM_000882	IL12A	Interleukin 12A (natural killer cell stimulatory factor 1, cytotoxic lymphocyte maturation factor 1, p35)
C01	Hs.674	NM_002187	IL12B	Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40)
C02	Hs.83077	NM_001562	IL18	Interleukin 18 (interferon-gamma-inducing factor)
C03	Hs.126256	NM_000576	IL1B	Interleukin 1, beta
C04	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
C05	Hs.624	NM_000584	IL8	Interleukin 8
C06	Hs.522819	NM_001569	IRAK1	Interleukin-1 receptor-associated kinase 1
C07	Hs.369265	NM_007199	IRAK3	Interleukin-1 receptor-associated kinase 3
C08	Hs.521181	NM_001098629	IRF5	Interferon regulatory factor 5
C09	Hs.166120	NM_001572	IRF7	Interferon regulatory factor 7
C10	Hs.714791	NM_002228	JUN	Jun proto-oncogene
C11	Hs.154078	NM_004139	LBP	Lipopolysaccharide binding protein
C12	Hs.204238	NM_005564	LCN2	Lipocalin 2
D01	Hs.529517	NM_002343	LTF	Lactotransferrin
D02	Hs.660766	NM_015364	LY96	Lymphocyte antigen 96
D03	Hs.524579	NM_000239	LYZ	Lysozyme
D04	Hs.145442	NM_002755	MAP2K1	Mitogen-activated protein kinase kinase 1
D05	Hs.514012	NM_002756	MAP2K3	Mitogen-activated protein kinase kinase 3
D06	Hs.514681	NM_003010	MAP2K4	Mitogen-activated protein kinase kinase 4
D07	Hs.644143	NM_003188	MAP3K7	Mitogen-activated protein kinase kinase kinase 7

Position	UniGene	GenBank	Symbol	Description
D08	Hs.431850	NM_002745	MAPK1	Mitogen-activated protein kinase 1
D09	Hs.485233	NM_001315	MAPK14	Mitogen-activated protein kinase 14
D10	Hs.861	NM_002746	MAPK3	Mitogen-activated protein kinase 3
D11	Hs.138211	NM_002750	MAPK8	Mitogen-activated protein kinase 8
D12	Hs.632221	NM_000243	MEFV	Mediterranean fever
E01	Hs.458272	NM_000250	MPO	Myeloperoxidase
E02	Hs.82116	NM_002468	MYD88	Myeloid differentiation primary response gene (88)
E03	Hs.710305	NM_004536	NAIP	NLR family, apoptosis inhibitory protein
E04	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E05	Hs.81328	NM_020529	NFKBIA	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E06	Hs.574741	NM_021209	NLRC4	NLR family, CARD domain containing 4
E07	Hs.104305	NM_033004	NLRP1	NLR family, pyrin domain containing 1
E08	Hs.159483	NM_183395	NLRP3	NLR family, pyrin domain containing 3
E09	Hs.405153	NM_006092	NOD1	Nucleotide-binding oligomerization domain containing 1
E10	Hs.592072	NM_022162	NOD2	Nucleotide-binding oligomerization domain containing 2
E11	Hs.553498	NM_006218	PIK3CA	Phosphoinositide-3-kinase, catalytic, alpha polypeptide
E12	Hs.928	NM_002777	PRTN3	Proteinase 3
F01	Hs.129758	NM_003978	PSTPIP1	Proline-serine-threonine phosphatase interacting protein 1
F02	Hs.499094	NM_013258	PYCARD	PYD and CARD domain containing
F03	Hs.413812	NM_006908	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
F04	Hs.502875	NM_021975	RELA	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
F05	Hs.519842	NM_003804	RIPK1	Receptor (TNFRSF)-interacting serine-threonine kinase 1
F06	Hs.103755	NM_003821	RIPK2	Receptor-interacting serine-threonine kinase 2
F07	Hs.591607	NM_000578	SLC11A1	Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1
F08	Hs.517070	NM_003064	SLPI	Secretory leukocyte peptidase inhibitor
F09	Hs.281902	NM_006704	SUGT1	SGT1, suppressor of G2 allele of SKP1 (S. cerevisiae)
F10	Hs.29344	NM_182919	TICAM1	Toll-like receptor adaptor molecule 1
F11	Hs.710895	NM_021649	TICAM2	Toll-like receptor adaptor molecule 2
F12	Hs.537126	NM_001039661	TIRAP	Toll-interleukin 1 receptor (TIR) domain containing adaptor protein
G01	Hs.654532	NM_003263	TLR1	Toll-like receptor 1
G02	Hs.519033	NM_003264	TLR2	Toll-like receptor 2
G03	Hs.174312	NM_138554	TLR4	Toll-like receptor 4
G04	Hs.604542	NM_003268	TLR5	Toll-like receptor 5
G05	Hs.662185	NM_006068	TLR6	Toll-like receptor 6
G06	Hs.87968	NM_017442	TLR9	Toll-like receptor 9
G07	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G08	Hs.279594	NM_001065	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A
G09	Hs.368527	NM_019009	TOLLIP	Toll interacting protein
G10	Hs.591983	NM_004620	TRAF6	TNF receptor-associated factor 6
G11	Hs.356076	NM_001167	XIAP	X-linked inhibitor of apoptosis
G12	Hs.302123	NM_030776	ZBP1	Z-DNA binding protein 1
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, 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 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
RT² 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
RT² 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.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

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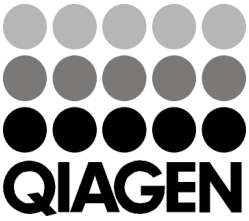

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