

# RT<sup>2</sup> Profiler PCR Array (Rotor-Gene<sup>®</sup> Format)

## Human Antifungal Response

Cat. no. 330231 PAHS-147ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

### Description

The Human Antifungal Response RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes involved in the innate immune response to fungi. 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. During the initial stages of a fungal infection, TLR and NLR family members, as well as other PRRs, recognize fungal pathogen-associated molecular patterns (PAMPs) including  $\beta$ -(1, 3)-glucans, mannan, and chitin. PAMP-receptor binding then activates the innate immune response, initiates downstream signaling, and induces expression of inflammatory cytokines. The downstream signaling of some fungal-associated PRRs is not widely characterized, but recent microarray studies have identified many genes affected during the initial stages of fungal infections. This array includes PRRs involved in fungal pathogen recognition and represents their downstream signaling pathways. This array also includes genes responsive to initial *Candida albicans*, *Aspergillus fumigatus*, or *Cryptococcus neoformans* infection. The results of this array may yield insights into innate immune mechanisms to fungal infection. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in the initial fungal pathogen response 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 the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

For long term storage, keep plates at  $-20^{\circ}\text{C}$ .

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**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

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc™ (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance.

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

Position	UniGene	GenBank	Symbol	Description
A01	Hs.193516	NM_003921	BCL10	B-cell CLL/lymphoma 10
A02	Hs.529053	NM_000064	C3	Complement component 3
A03	Hs.2161	NM_001736	C5AR1	Complement component 5a receptor 1
A04	Hs.694071	NM_052813	CARD9	Caspase recruitment domain family, member 9
A05	Hs.2490	NM_033292	CASP1	Caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)
A06	Hs.599762	NM_001228	CASP8	Caspase 8, apoptosis-related cysteine peptidase
A07	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2
A08	Hs.75498	NM_004591	CCL20	Chemokine (C-C motif) ligand 20
A09	Hs.514821	NM_002985	CCL5	Chemokine (C-C motif) ligand 5
A10	Hs.301921	NM_001295	CCR1	Chemokine (C-C motif) receptor 1
A11	Hs.163867	NM_000591	CD14	CD14 molecule
A12	Hs.199731	NM_015717	CD207	CD207 molecule, langerin
B01	Hs.278694	NM_021155	CD209	CD209 molecule
B02	Hs.120949	NM_000072	CD36	CD36 molecule (thrombospondin receptor)
B03	Hs.472860	NM_001250	CD40	CD40 molecule, TNF receptor superfamily member 5
B04	Hs.58685	NM_014207	CD5	CD5 molecule
B05	Hs.595133	NM_004233	CD83	CD83 molecule
B06	Hs.128814	NM_201653	CHIA	Chitinase, acidic
B07	Hs.591147	NM_001007033	CLEC6A	C-type lectin domain family 6, member A
B08	Hs.143929	NM_022570	CLEC7A	C-type lectin domain family 7, member A
B09	Hs.464422	NM_130386	COLEC12	Collectin sub-family member 12
B10	Hs.1349	NM_000758	CSF2	Colony stimulating factor 2 (granulocyte-macrophage)
B11	Hs.2233	NM_000759	CSF3	Colony stimulating factor 3 (granulocyte)
B12	Hs.789	NM_001511	CXCL1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
C01	Hs.632586	NM_001565	CXCL10	Chemokine (C-X-C motif) ligand 10
C02	Hs.632592	NM_005409	CXCL11	Chemokine (C-X-C motif) ligand 11
C03	Hs.590921	NM_002089	CXCL2	Chemokine (C-X-C motif) ligand 2
C04	Hs.77367	NM_002416	CXCL9	Chemokine (C-X-C motif) ligand 9
C05	Hs.154299	NM_005242	F2RL1	Coagulation factor II (thrombin) receptor-like 1
C06	Hs.62192	NM_001993	F3	Coagulation factor III (thromboplastin, tissue factor)
C07	Hs.77424	NM_000566	FCGR1A	Fc fragment of IgG, high affinity Ia, receptor (CD64)
C08	Hs.352642	NM_021642	FCGR2A	Fc fragment of IgG, low affinity IIa, receptor (CD32)
C09	Hs.372679	NM_000569	FCGR3A	Fc fragment of IgG, low affinity IIIa, receptor (CD16a)
C10	Hs.440898	NM_002003	FCN1	Ficolin (collagen/fibrinogen domain containing) 1
C11	Hs.728789	NM_005252	FOS	FBJ murine osteosarcoma viral oncogene homolog
C12	Hs.856	NM_000619	IFNG	Interferon, gamma
D01	Hs.597664	NM_001556	IKBKB	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
D02	Hs.193717	NM_000572	IL10	Interleukin 10
D03	Hs.673	NM_000882	IL12A	Interleukin 12A (natural killer cell stimulatory factor 1, cytotoxic lymphocyte maturation factor 1, p35)
D04	Hs.674	NM_002187	IL12B	Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40)
D05	Hs.83077	NM_001562	IL18	Interleukin 18 (interferon-gamma-inducing factor)
D06	Hs.1722	NM_000575	IL1A	Interleukin 1, alpha
D07	Hs.126256	NM_000576	IL1B	Interleukin 1, beta
D08	Hs.701982	NM_000877	IL1R1	Interleukin 1 receptor, type I
D09	Hs.89679	NM_000586	IL2	Interleukin 2
D10	Hs.98309	NM_016584	IL23A	Interleukin 23, alpha subunit p19
D11	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
D12	Hs.624	NM_000584	IL8	Interleukin 8
E01	Hs.522819	NM_001569	IRAK1	Interleukin-1 receptor-associated kinase 1
E02	Hs.138499	NM_016123	IRAK4	Interleukin-1 receptor-associated kinase 4
E03	Hs.172631	NM_000632	ITGAM	Integrin, alpha M (complement component 3 receptor 3 subunit)
E04	Hs.375957	NM_000211	ITGB2	Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)
E05	Hs.714791	NM_002228	JUN	Jun proto-oncogene
E06	Hs.699154	NM_002350	LYN	V-yes-1 Yamaguchi sarcoma viral related oncogene homolog
E07	Hs.601217	NM_173844	MALT1	Mucosa associated lymphoid tissue lymphoma translocation gene 1

Position	UniGene	GenBank	Symbol	Description
E08	Hs.514681	NM_003010	MAP2K4	Mitogen-activated protein kinase kinase 4
E09	Hs.644143	NM_003188	MAP3K7	Mitogen-activated protein kinase kinase 7
E10	Hs.485233	NM_001315	MAPK14	Mitogen-activated protein kinase 14
E11	Hs.138211	NM_002750	MAPK8	Mitogen-activated protein kinase 8
E12	Hs.499674	NM_000242	MBL2	Mannose-binding lectin (protein C) 2, soluble
F01	Hs.75182	NM_002438	MRC1	Mannose receptor, C type 1
F02	Hs.82116	NM_002468	MYD88	Myeloid differentiation primary response gene (88)
F03	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
F04	Hs.81328	NM_020529	NFKBIA	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
F05	Hs.159483	NM_183395	NLRP3	NLR family, pyrin domain containing 3
F06	Hs.514556	NM_002522	NPTX1	Neuronal pentraxin I
F07	Hs.413111	NM_002661	PLCG2	Phospholipase C, gamma 2 (phosphatidylinositol-specific)
F08	Hs.196384	NM_000963	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
F09	Hs.63489	NM_002831	PTPN6	Protein tyrosine phosphatase, non-receptor type 6
F10	Hs.591286	NM_002852	PTX3	Pentraxin 3, long
F11	Hs.499094	NM_013258	PYCARD	PYD and CARD domain containing
F12	Hs.159130	NM_002880	RAF1	V-raf-1 murine leukemia viral oncogene homolog 1
G01	Hs.647430	NM_003693	SCARF1	Scavenger receptor class F, member 1
G02	Hs.253495	NM_003019	SFTPD	Surfactant protein D
G03	Hs.527973	NM_003955	SOCS3	Suppressor of cytokine signaling 3
G04	Hs.415117	NM_003896	ST3GAL5	ST3 beta-galactoside alpha-2,3-sialyltransferase 5
G05	Hs.642990	NM_007315	STAT1	Signal transducer and activator of transcription 1, 91kDa
G06	Hs.371720	NM_003177	SYK	Spleen tyrosine kinase
G07	Hs.537126	NM_001039661	TIRAP	Toll-interleukin 1 receptor (TIR) domain containing adaptor protein
G08	Hs.519033	NM_003264	TLR2	Toll-like receptor 2
G09	Hs.174312	NM_138554	TLR4	Toll-like receptor 4
G10	Hs.87968	NM_017442	TLR9	Toll-like receptor 9
G11	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G12	Hs.591983	NM_004620	TRAF6	TNF receptor-associated factor 6
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 ROX™ FAST Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers	330620

\* Larger kit sizes available; please inquire.

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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.

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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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