

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

Rat Antifungal Response

Cat. no. 330231 PARN-147ZA

For pathway expression analysis

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



Description

The Rat Antifungal Response RT² 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 β -(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 *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	Bcl10	C3	C5ar1	Card9	Casp1	Casp8	Ccl12	Ccl20	Ccl5	Ccl7	Ccr1	Ccr5
B	Cd14	Cd36	Cd40	Cd5	Cd83	Chia	Clec7a	Colec12	Csf1	Csf2	Csf3	Cxcl1
C	Cxcl10	Cxcl11	Cxcl2	Cxcl3	Cxcl9	F2rl1	F3	Fcgr1a	Fcgr2a	Fcgr3a	Fcnb	Fos
D	Ifng	Ikbbk	Il10	Il12a	Il12b	Il15	Il18	Il1a	Il1b	Il1r1	Il2	Il23a
E	Il6	Il6k1	Il6k4	Il6gm	Il6b2	Jun	Lyn	Malt1	Map2k4	Map3k7	Mapk14	Mapk8
F	Mbl2	Mrc1	Myd88	Nfkbl	Nfkbia	Nlrp3	Nptx1	Plcg2	Plgs2	Plpn6	Pycard	Raf1
G	Scar1	Sftpd	Socs3	Sl3gal5	Stat1	Syk	Tirap	Tlr2	Tlr4	Tlr9	Tnf	Traf6
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.13007	NM_031328	Bcl10	B-cell CLL/lymphoma 10
A02	Rn.11378	NM_016994	C3	Complement component 3
A03	Rn.10680	NM_053619	C5ar1	Complement component 5a receptor 1
A04	Rn.64486	NM_022303	Card9	Caspase recruitment domain family, member 9
A05	Rn.37508	NM_012762	Casp1	Caspase 1
A06	Rn.54474	NM_022277	Casp8	Caspase 8
A07	Rn.137780	NM_001105822	Ccl12	Chemokine (C-C motif) ligand 12
A08	Rn.10722	NM_019233	Ccl20	Chemokine (C-C motif) ligand 20
A09	Rn.8019	NM_031116	Ccl5	Chemokine (C-C motif) ligand 5
A10	Rn.26815	NM_001007612	Ccl7	Chemokine (C-C motif) ligand 7
A11	Rn.34673	NM_020542	Ccr1	Chemokine (C-C motif) receptor 1
A12	Rn.10736	NM_053960	Ccr5	Chemokine (C-C motif) receptor 5
B01	Rn.42942	NM_021744	Cd14	CD14 molecule
B02	Rn.102418	NM_031561	Cd36	CD36 molecule (thrombospondin receptor)
B03	Rn.25180	NM_134360	Cd40	CD40 molecule, TNF receptor superfamily member 5
B04	Rn.11337	NM_019295	Cd5	CD5 molecule
B05	Rn.20096	NM_001108410	Cd83	CD83 molecule
B06	Rn.43692	NM_207586	Chia	Chitinase, acidic
B07	Rn.15743	XM_001067977	Clec7a	C-type lectin domain family 7, member a
B08	Rn.31273	NM_001025721	Colec12	Collectin sub-family member 12
B09	Rn.83632	NM_023981	Csf1	Colony stimulating factor 1 (macrophage)
B10	Rn.44285	XM_340799	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
B11	Rn.53973	NM_017104	Csf3	Colony stimulating factor 3 (granulocyte)
B12	Rn.10907	NM_030845	Cxcl1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
C01	Rn.10584	NM_139089	Cxcl10	Chemokine (C-X-C motif) ligand 10
C02	Rn.13664	NM_182952	Cxcl11	Chemokine (C-X-C motif) ligand 11
C03	Rn.10230	NM_053647	Cxcl2	Chemokine (C-X-C motif) ligand 2
C04	Rn.10525	NM_138522	Cxcl3	Chemokine (C-X-C motif) ligand 3
C05	Rn.7391	NM_145672	Cxcl9	Chemokine (C-X-C motif) ligand 9
C06	Rn.10543	NM_053897	F2rl1	Coagulation factor II (thrombin) receptor-like 1
C07	Rn.9980	NM_013057	F3	Coagulation factor III (thromboplastin, tissue factor)
C08	Rn.16643	NM_001100836	Fcgr1a	Fc fragment of IgG, high affinity Ia, receptor (CD64)
C09	Rn.6050	NM_053843	Fcgr2a	Fc fragment of IgG, low affinity IIa, receptor (CD32)
C10	Rn.23977	NM_207603	Fcgr3a	Fc fragment of IgG, low affinity IIIa, receptor
C11	Rn.48281	NM_053634	Fcnb	Ficolin B
C12	Rn.103750	NM_022197	Fos	FBJ osteosarcoma oncogene
D01	Rn.10795	NM_138880	Ifng	Interferon gamma
D02	Rn.19222	NM_053355	Ikbbk	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
D03	Rn.9868	NM_012854	Il10	Interleukin 10
D04	Rn.207199	NM_053390	Il12a	Interleukin 12a
D05	Rn.48686	NM_022611	Il12b	Interleukin 12b
D06	Rn.2490	NM_013129	Il15	Interleukin 15
D07	Rn.11118	NM_019165	Il18	Interleukin 18
D08	Rn.12300	NM_017019	Il1a	Interleukin 1 alpha
D09	Rn.9869	NM_031512	Il1b	Interleukin 1 beta

Position	UniGene	GenBank	Symbol	Description
D10	Rn.9758	NM_013123	Il1r1	Interleukin 1 receptor, type I
D11	Rn.9871	NM_053836	Il2	Interleukin 2
D12	Rn.81073	NM_130410	Il23a	Interleukin 23, alpha subunit p19
E01	Rn.9873	NM_012589	Il6	Interleukin 6
E02	Rn.22238	NM_001127555	Irak1	Interleukin-1 receptor-associated kinase 1
E03	Rn.61427	NM_001106791	Irak4	Interleukin-1 receptor-associated kinase 4
E04	Rn.54465	NM_012711	Itgam	Integrin, alpha M
E05	Rn.42962	NM_001037780	Itgb2	Integrin, beta 2
E06	Rn.93714	NM_021835	Jun	Jun oncogene
E07	Rn.4338	NM_030857	Lyn	V-src-1 Yamaguchi sarcoma viral related oncogene homolog
E08	Rn.86215	XM_225927	Malt1	Mucosa associated lymphoid tissue lymphoma translocation gene 1
E09	Rn.198875	NM_001030023	Map2k4	Mitogen activated protein kinase kinase 4
E10	Rn.24019	NM_001107920	Map3k7	Mitogen activated protein kinase kinase kinase 7
E11	Rn.88085	NM_031020	Mapk14	Mitogen activated protein kinase 14
E12	Rn.4090	XM_341399	Mapk8	Mitogen-activated protein kinase 8
F01	Rn.9667	NM_022704	Mbl2	Mannose-binding lectin (protein C) 2
F02	Rn.9197	NM_001106123	Mrc1	Mannose receptor, C type 1
F03	Rn.37341	NM_198130	Myd88	Myeloid differentiation primary response gene 88
F04	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
F05	Rn.12550	NM_001105720	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
F06	Rn.214177	XM_220513	Nlrp3	NLR family, pyrin domain containing 3
F07	Rn.54707	NM_153735	Nptx1	Neuronal pentraxin 1
F08	Rn.9751	NM_017168	Plcg2	Phospholipase C, gamma 2
F09	Rn.44369	NM_017232	Ptgs2	Prostaglandin-endoperoxide synthase 2
F10	Rn.18985	NM_053908	Plpn6	Protein tyrosine phosphatase, non-receptor type 6
F11	Rn.7817	NM_172322	Pycard	PYD and CARD domain containing
F12	Rn.33262	NM_012639	Raf1	V-raf-leukemia viral oncogene 1
G01	Rn.130912	NM_001107022	Scarf1	Scavenger receptor class F, member 1
G02	Rn.11348	NM_012878	Sftpd	Surfactant protein D
G03	Rn.127801	NM_053565	Socs3	Suppressor of cytokine signaling 3
G04	Rn.22706	NM_031337	St3gal5	ST3 beta-galactoside alpha-2,3-sialyltransferase 5
G05	Rn.33229	NM_032612	Stat1	Signal transducer and activator of transcription 1
G06	Rn.87407	NM_012758	Syk	Spleen tyrosine kinase
G07	N/A	XM_001055833	Tirap	Toll-interleukin 1 receptor (TIR) domain-containing adaptor protein
G08	Rn.46387	NM_198769	Tlr2	Toll-like receptor 2
G09	Rn.14534	NM_019178	Tlr4	Toll-like receptor 4
G10	Rn.92495	NM_198131	Tlr9	Toll-like receptor 9
G11	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G12	Rn.220435	NM_001107754	Traf6	Tnf receptor-associated factor 6
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, 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.
RT ² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT ² 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 ² 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 ² 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.

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