

RT² Profiler PCR Array (Rotor-Gene[®] Format)

Mouse Antibacterial Response

Cat. no. 330231 PAMM-148ZR

For pathway expression analysis

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

Description

The Mouse 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 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°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.



Sample & Assay Technologies

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: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Mm.6645	NM_009652	Akt1	Thymoma viral proto-oncogene 1
A02	Mm.330510	NM_011318	Apcs	Serum amyloid P-component
A03	Mm.2026	NM_007464	Birc3	Baculoviral IAP repeat-containing 3
A04	Mm.260883	NM_177850	Bpi	Bactericidal permeability increasing protein
A05	Mm.3834	NM_009921	Camp	Cathelicidin antimicrobial peptide
A06	Mm.31252	NM_001163138	Card6	Caspase recruitment domain family, member 6
A07	Mm.330064	NM_001037747	Card9	Caspase recruitment domain family, member 9
A08	Mm.1051	NM_009807	Casp1	Caspase 1
A09	Mm.336851	NM_009812	Casp8	Caspase 8
A10	Mm.1282	NM_011337	Ccl3	Chemokine (C-C motif) ligand 3
A11	Mm.244263	NM_013652	Ccl4	Chemokine (C-C motif) ligand 4
A12	Mm.284248	NM_013653	Ccl5	Chemokine (C-C motif) ligand 5
B01	Mm.3460	NM_009841	Cd14	CD14 antigen
B02	Mm.3996	NM_007700	Chuk	Conserved helix-loop-helix ubiquitous kinase
B03	Mm.28767	NM_007768	Crp	C-reactive protein, pentraxin-related
B04	Mm.4858	NM_007800	CtsG	Cathepsin G
B05	Mm.21013	NM_008176	Cxcl1	Chemokine (C-X-C motif) ligand 1
B06	Mm.244289	NM_203320	Cxcl3	Chemokine (C-X-C motif) ligand 3
B07	Mm.4138	NM_007769	Dmbt1	Deleted in malignant brain tumors 1
B08	Mm.5126	NM_010175	Fadd	Fas (TNFRSF6)-associated via death domain
B09	Mm.1843	NM_010480	Hsp90aa1	Heat shock protein 90, alpha (cytosolic), class A member 1
B10	Mm.377092	NM_010507	Ifna9	Interferon alpha 9
B11	Mm.1245	NM_010510	Ifnb1	Interferon beta 1, fibroblast
B12	Mm.277886	NM_010546	Ikbkb	Inhibitor of kappaB kinase beta
C01	Mm.103783	NM_008351	Il12a	Interleukin 12A
C02	Mm.239707	NM_008352	Il12b	Interleukin 12B
C03	Mm.1410	NM_008360	Il18	Interleukin 18
C04	Mm.222830	NM_008361	Il1b	Interleukin 1 beta
C05	Mm.1019	NM_031168	Il6	Interleukin 6
C06	Mm.38241	NM_008363	Irak1	Interleukin-1 receptor-associated kinase 1
C07	Mm.146194	NM_028679	Irak3	Interleukin-1 receptor-associated kinase 3
C08	Mm.6479	NM_012057	Irf5	Interferon regulatory factor 5
C09	Mm.3233	NM_016850	Irf7	Interferon regulatory factor 7
C10	Mm.275071	NM_010591	Jun	Jun oncogene
C11	Mm.218846	NM_008489	Lbp	Lipopolysaccharide binding protein
C12	Mm.9537	NM_008491	Lcn2	Lipocalin 2
D01	Mm.282359	NM_008522	Ltf	Lactotransferrin
D02	Mm.116844	NM_016923	Ly96	Lymphocyte antigen 96
D03	Mm.45436	NM_017372	Lyz2	Lysozyme 2
D04	Mm.248907	NM_008927	Map2k1	Mitogen-activated protein kinase kinase 1
D05	Mm.18494	NM_008928	Map2k3	Mitogen-activated protein kinase kinase 3
D06	Mm.412922	NM_009157	Map2k4	Mitogen-activated protein kinase kinase 4
D07	Mm.258589	NM_172688	Map3k7	Mitogen-activated protein kinase kinase kinase 7
D08	Mm.196581	NM_011949	Mapk1	Mitogen-activated protein kinase 1
D09	Mm.311337	NM_011951	Mapk14	Mitogen-activated protein kinase 14
D10	Mm.8385	NM_011952	Mapk3	Mitogen-activated protein kinase 3
D11	Mm.21495	NM_016700	Mapk8	Mitogen-activated protein kinase 8
D12	Mm.143718	NM_019453	Mefv	Mediterranean fever
E01	Mm.4668	NM_010824	Mpo	Myeloperoxidase
E02	Mm.213003	NM_010851	Myd88	Myeloid differentiation primary response gene 88
E03	Mm.6898	NM_008670	Naip1	NLR family, apoptosis inhibitory protein 1
E04	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
E05	Mm.170515	NM_010907	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E06	Mm.311884	NM_001033367	Nlr4	NLR family, CARD domain containing 4
E07	Mm.240227	NM_001004142	Nlrp1a	NLR family, pyrin domain containing 1A
E08	Mm.54174	NM_145827	Nlrp3	NLR family, pyrin domain containing 3

Position	UniGene	GenBank	Symbol	Description
E09	Mm.28498	NM_172729	Nod1	Nucleotide-binding oligomerization domain containing 1
E10	Mm.222633	NM_145857	Nod2	Nucleotide-binding oligomerization domain containing 2
E11	Mm.260521	NM_008839	Pik3ca	Phosphatidylinositol 3-kinase, catalytic, alpha polypeptide
E12	Mm.2364	NM_011178	Prtn3	Proteinase 3
F01	Mm.2534	NM_011193	Pstpip1	Proline-serine-threonine phosphatase-interacting protein 1
F02	Mm.24163	NM_023258	Pycard	PYD and CARD domain containing
F03	Mm.292510	NM_009007	Rac1	RAS-related C3 botulinum substrate 1
F04	Mm.249966	NM_009045	Rela	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
F05	Mm.374799	NM_009068	Ripk1	Receptor (TNFRSF)-interacting serine-threonine kinase 1
F06	Mm.112765	NM_138952	Ripk2	Receptor (TNFRSF)-interacting serine-threonine kinase 2
F07	Mm.2913	NM_013612	Slc11a1	Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1
F08	Mm.371583	NM_011414	Slpi	Secretory leukocyte peptidase inhibitor
F09	Mm.18972	NM_026474	Sugt1	SGT1, suppressor of G2 allele of SKP1 (<i>S. cerevisiae</i>)
F10	Mm.203952	NM_174989	Ticam1	Toll-like receptor adaptor molecule 1
F11	Mm.149280	NM_173394	Ticam2	Toll-like receptor adaptor molecule 2
F12	Mm.23987	NM_054096	Tirap	Toll-interleukin 1 receptor (TIR) domain-containing adaptor protein
G01	Mm.273024	NM_030682	Tlr1	Toll-like receptor 1
G02	Mm.87596	NM_011905	Tlr2	Toll-like receptor 2
G03	Mm.38049	NM_021297	Tlr4	Toll-like receptor 4
G04	Mm.116894	NM_016928	Tlr5	Toll-like receptor 5
G05	Mm.42146	NM_011604	Tlr6	Toll-like receptor 6
G06	Mm.44889	NM_031178	Tlr9	Toll-like receptor 9
G07	Mm.1293	NM_013693	Tnf	Tumor necrosis factor
G08	Mm.1258	NM_011609	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G09	Mm.103551	NM_023764	Tollip	Toll interacting protein
G10	Mm.292729	NM_009424	Traf6	Tnf receptor-associated factor 6
G11	Mm.259879	NM_009688	Xiap	X-linked inhibitor of apoptosis
G12	Mm.116687	NM_021394	Zbp1	Z-DNA binding protein 1
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.343110	NM_008084	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mm.3317	NM_010368	Gusb	Glucuronidase, beta
H05	Mm.2180	NM_008302	Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1
H06	N/A	SA_00106	MGDC	Mouse 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 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.

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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