

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

Mouse Toll-Like Receptor Signaling Pathway

Cat. no. 330231 PAMM-018ZR

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 Toll-Like Receptor (TLR) Signaling Pathway RT² Profiler PCR Array profiles the expression of 84 genes central to TLR-mediated signal transduction and innate immunity. The TLR family of pattern recognition receptors (PRRs) detects a wide range of bacteria, viruses, fungi and parasites via pathogen-associated molecular patterns (PAMPs). Each receptor binds to specific ligands, initiates a tailored innate immune response to the specific class of pathogen, and activates the adaptive immune response. For example, TLR4 recognizes bacterial lipopolysaccharide (LPS) or endotoxin, the compound which causes septic shock during blood-borne infection. The receptors act alone or as heterodimers, interacting with adaptor proteins to initiate MyD88 or TICAM1 (TRIF)-dependent responses. These responses initiate signaling cascades primarily through NFκB, which activates downstream JNK/p38 signaling or cytokine secretion. Dysregulation of these signaling pathways has severe consequences, and causes many autoimmune diseases and chronic pathological inflammation. This array includes members of the TLR signaling family as well as adaptor and effector proteins. Members of the NFκB, JNK/p38, IRF and JAK/STAT signaling pathways downstream of TLR activation are also included. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to TLR-mediated signal transduction 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.392569	NM_010472	Agfg1	ArfGAP with FG repeats 1
A02	Mm.4475	NM_013482	Btk	Bruton agammaglobulinemia tyrosine kinase
A03	Mm.336851	NM_009812	Casp8	Caspase 8
A04	Mm.290320	NM_011333	Ccl2	Chemokine (C-C motif) ligand 2
A05	Mm.3460	NM_009841	Cd14	CD14 antigen
A06	Mm.89474	NM_009855	Cd80	CD80 antigen
A07	Mm.1452	NM_019388	Cd86	CD86 antigen
A08	Mm.439656	NM_009883	Cebpb	CCAAT/enhancer binding protein (C/EBP), beta
A09	Mm.3996	NM_007700	Chuk	Conserved helix-loop-helix ubiquitous kinase
A10	Mm.248327	NM_019948	Clec4e	C-type lectin domain family 4, member e
A11	Mm.4922	NM_009969	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
A12	Mm.1238	NM_009971	Csf3	Colony stimulating factor 3 (granulocyte)
B01	Mm.877	NM_021274	Cxcl10	Chemokine (C-X-C motif) ligand 10
B02	Mm.378990	NM_011163	Eif2ak2	Eukaryotic translation initiation factor 2-alpha kinase 2
B03	Mm.405823	NM_007922	Elk1	ELK1, member of ETS oncogene family
B04	Mm.5126	NM_010175	Fadd	Fas (TNFRSF6)-associated via death domain
B05	Mm.246513	NM_010234	Fos	FBJ osteosarcoma oncogene
B06	Mm.313345	NM_010439	Hmgb1	High mobility group box 1
B07	Mm.334313	NM_008284	Hras1	Harvey rat sarcoma virus oncogene 1
B08	Mm.6388	NM_010479	Hspa1a	Heat shock protein 1A
B09	Mm.1777	NM_010477	Hspd1	Heat shock protein 1 (chaperonin)
B10	Mm.1245	NM_010510	Ifnb1	Interferon beta 1, fibroblast
B11	Mm.240327	NM_008337	Ifng	Interferon gamma
B12	Mm.277886	NM_010546	Ikbbp	Inhibitor of kappaB kinase beta
C01	Mm.874	NM_010548	Il10	Interleukin 10
C02	Mm.103783	NM_008351	Il12a	Interleukin 12A
C03	Mm.15534	NM_010554	Il1a	Interleukin 1 alpha
C04	Mm.222830	NM_008361	Il1b	Interleukin 1 beta
C05	Mm.896	NM_008362	Il1r1	Interleukin 1 receptor, type 1
C06	Mm.14190	NM_008366	Il2	Interleukin 2
C07	Mm.1019	NM_031168	Il6	Interleukin 6
C08	Mm.2856	NM_010559	Il6ra	Interleukin 6 receptor, alpha
C09	Mm.38241	NM_008363	Irak1	Interleukin-1 receptor-associated kinase 1
C10	Mm.152142	NM_172161	Irak2	Interleukin-1 receptor-associated kinase 2
C11	Mm.105218	NM_008390	Irf1	Interferon regulatory factor 1
C12	Mm.3960	NM_016849	Irf3	Interferon regulatory factor 3
D01	Mm.275071	NM_010591	Jun	Jun oncogene
D02	Mm.87787	NM_010735	Lta	Lymphotoxin A
D03	Mm.2639	NM_010745	Ly86	Lymphocyte antigen 86
D04	Mm.116844	NM_016923	Ly96	Lymphocyte antigen 96
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.15918	NM_011945	Map3k1	Mitogen-activated protein kinase kinase kinase 1
D08	Mm.258589	NM_172688	Map3k7	Mitogen-activated protein kinase kinase kinase 7
D09	Mm.21495	NM_016700	Mapk8	Mitogen-activated protein kinase 8
D10	Mm.43081	NM_013931	Mapk8ip3	Mitogen-activated protein kinase 8 interacting protein 3
D11	Mm.68933	NM_016961	Mapk9	Mitogen-activated protein kinase 9
D12	Mm.3177	NM_010739	Muc13	Mucin 13, epithelial transmembrane
E01	Mm.213003	NM_010851	Myd88	Myeloid differentiation primary response gene 88
E02	Mm.256765	NM_008689	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105
E03	Mm.102365	NM_019408	Nfkb2	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 2, p49/p100
E04	Mm.170515	NM_010907	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E05	Mm.220333	NM_010908	Nfkbib	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, beta
E06	Mm.300795	NM_010909	Nfkbi1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor-like 1
E07	Mm.238146	NM_172766	Nfrkb	Nuclear factor related to kappa B binding protein

Position	UniGene	GenBank	Symbol	Description
E08	Mm.442385	NM_011630	Nr2c2	Nuclear receptor subfamily 2, group C, member 2
E09	Mm.28957	NM_023324	Peli1	Pellino 1
E10	Mm.21855	NM_009402	Pglyrp1	Peptidoglycan recognition protein 1
E11	Mm.212789	NM_011144	Ppara	Peroxisome proliferator activated receptor alpha
E12	Mm.292547	NM_011198	Ptgs2	Prostaglandin-endoperoxide synthase 2
F01	Mm.4869	NM_009044	Rel	Reticuloendotheliosis oncogene
F02	Mm.249966	NM_009045	Rela	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
F03	Mm.112765	NM_138952	Ripk2	Receptor (TNFRSF)-interacting serine-threonine kinase 2
F04	Mm.34580	NM_019786	Tbk1	TANK-binding kinase 1
F05	Mm.203952	NM_174989	Ticam1	Toll-like receptor adaptor molecule 1
F06	Mm.149280	NM_173394	Ticam2	Toll-like receptor adaptor molecule 2
F07	Mm.23987	NM_054096	Tirap	Toll-interleukin 1 receptor (TIR) domain-containing adaptor protein
F08	Mm.273024	NM_030682	Tlr1	Toll-like receptor 1
F09	Mm.87596	NM_011905	Tlr2	Toll-like receptor 2
F10	Mm.33874	NM_126166	Tlr3	Toll-like receptor 3
F11	Mm.38049	NM_021297	Tlr4	Toll-like receptor 4
F12	Mm.116894	NM_016928	Tlr5	Toll-like receptor 5
G01	Mm.42146	NM_011604	Tlr6	Toll-like receptor 6
G02	Mm.23979	NM_133211	Tlr7	Toll-like receptor 7
G03	Mm.196676	NM_133212	Tlr8	Toll-like receptor 8
G04	Mm.44889	NM_031178	Tlr9	Toll-like receptor 9
G05	Mm.1293	NM_013693	Tnf	Tumor necrosis factor
G06	Mm.116683	NM_009397	Tnfaip3	Tumor necrosis factor, alpha-induced protein 3
G07	Mm.1258	NM_011609	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G08	Mm.103551	NM_023764	Tollip	Toll interacting protein
G09	Mm.264255	NM_001033161	Tradd	TNFRSF1A-associated via death domain
G10	Mm.292729	NM_009424	Traf6	Tnf receptor-associated factor 6
G11	Mm.371667	NM_080560	Ube2n	Ubiquitin-conjugating enzyme E2N
G12	Mm.278783	NM_023230	Ube2v1	Ubiquitin-conjugating enzyme E2 variant 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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