RT² Profiler PCR Array (Rotor-Gene® Format)

Rhesus Macaque Toll-Like Receptor Signaling Pathway

Cat. no. 330231 PAQQ-018ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Rhesus Macaque 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.

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	N/A	XM_001091080	CASP8	Caspase 8, apoptosis-related cysteine peptidase
A02	Mmu.3491	NM_001032821	CCL2	Chemokine (C-C motif) ligand 2
A03	Mmu.11968	NM_001130433	CD14	CD14 molecule
A04	Mmu.3580	NM_001042644	CD86	CD86 molecule
A05	Mmu.16157	XM_001107171	CHUK	Conserved helix-loop-helix ubiquitous kinase
A06	N/A	XM_001118423	CLEC4E	C-type lectin domain family 4, member E
A07	Mmu.3665	NM_001032949	CSF2	Colony stimulating factor 2 (granulocyte-macrophage)
A08	Mmu.15567	XM_001095097	CSF3	Colony stimulating factor 3 (granulocyte)
A09	Mmu.17173	NM_001083948	EIF2AK2	Eukaryotic translation initiation factor 2-alpha kinase 2
A10	Mmu.1563	NM_001098399	FOS	FBJ murine osteosarcoma viral oncogene homolog
A11	Mmu.15889	XM_001089255	GPC1	Glypican 1
A12	N/A	XM_001085804	HRAS	V-Ha-ras Harvey rat sarcoma viral oncogene homolog
B01	Mmu.4930	XM_001115060	HSPA1B	Heat shock 70kDa protein 1B
B02	Mmu.15664	NM_001135795	IFNB1	Interferon, beta 1, fibroblast
B03	Mmu.3373	NM_001032905	IFNG	Interferon-gamma
B04	Mmu.11069	XM_001096913	IKBKB	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
B05	Mmu.3374	NM_001044727	IL10	Interleukin 10
B06	Mmu.3413	NM_001044725	IL12B	Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40)
B07	Mmu.3361	NM_001042757	IL1A	Interleukin 1, alpha
B08	Mmu.648	NM_001042756	IL1B	Interleukin 1, beta
B09	Mmu.3415	NM_001047130	IL2	Interleukin 2
B10	Mmu.3376	NM_001042733	IL6	Interleukin 6 (interferon, beta 2)
B11	Mmu.3363	NM_001032965	IL8	Interleukin 8
B12	Mmu.13250	XM_001090790	IRAK2	Interleukin-1 receptor-associated kinase 2
C01	N/A	XM_001117080	IRAK3	Interleukin-1 receptor-associated kinase 3
C02	N/A	NM_001136101	IRAK4	Interleukin-1 receptor-associated kinase 4
C03	Mmu.11578	XM_001104294	IRF1	Interferon regulatory factor 1
C04	Mmu.925	NM_001135797	IRF3	Interferon regulatory factor 3
C05	Mmu.11935	NM_001136100	IRF7	Interferon regulatory factor 7
C06	N/A	XM_001100468	LOC708606	Protein FADD-like
C07	Mmu.15440	XM_001106441	LOC714805	Evolutionarily conserved signaling intermediate in Toll pathway, mitochondrial-like
C08	Mmu.18417	XM_001114665	LOC716452	Transcription factor AP-1-like
C09	Mmu.13554	NM_001135796	LOC716907	TNF receptor-associated factor 6
C10	N/A	XM_001103121	LOC718480	Peptidoglycan recognition protein 1-like
C11	Mmu.10857	NM_001047148	LTA	Lymphotoxin alpha (TNF superfamily, member 1)
C12	N/A	XM_001096895	LY86	Lymphocyte antigen 86
D01	Mmu.17492	NM_001130432	LY96	Lymphocyte antigen 96
D02	N/A	XM_001095645	MAL	Mal, T-cell differentiation protein
D03	Mmu.11337	XM_001104024	MAP2K3	Mitogen-activated protein kinase kinase 3
D04	Mmu.787	XM_001114330	MAP2K4	Mitogen-activated protein kinase kinase 4
D05	Mmu.14411	XM_001115548	MAP3K14	Mitogen-activated protein kinase kinase kinase 14
D06	Mmu.14771	XM_001099849	MAP3K7	Mitogen-activated protein kinase kinase kinase 7
D07	Mmu.13214	XM_001107420	MAP4K4	Mitogen-activated protein kinase kinase kinase kinase 4
D08	Mmu.11175	XM_001094663	MAPK10	Mitogen-activated protein kinase 10
D09	N/A	XM_001112462	MAPK12	Mitogen-activated protein kinase 12
D10	Mmu.3822	XM_001108815	MAPK8	Mitogen-activated protein kinase 8
D11	N/A	XM_001090098	MAPK8IP3	Mitogen-activated protein kinase 8 interacting protein 3
D12	Mmu.17494	NM_001130681	MYD88	Myeloid differentiation primary response gene (88)
E01	Mmu.12391	XM_001109277	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E02	Mmu.12443	XM_001104566	NFKB2	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 2 (p49/p100)
E03	Mmu.12474	XM_001087842	NFKBIA	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E04	Mmu.15417	XM_001085582	NFKBIB	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, beta
E05	N/A	XM_002808387	NFKBIE	NF-kappa-B inhibitor epsilon-like
E06	N/A	XM_001111867	NFRKB	Nuclear factor related to kappaB binding protein

Position	UniGene	GenBank	Symbol	Description
E07	Mmu.12193	XM_001085049	PELI1	Pellino homolog 1 (Drosophila)
E08	Mmu.13277	XM_001087641	PELI2	Pellino homolog 2 (Drosophila)
E09	Mmu.11939	XM_001111934	PGLYRP2	Peptidoglycan recognition protein 2
E10	N/A	XM_001110279	PGLYRP3	Peptidoglycan recognition protein 3
E11	Mmu.4695	NM_001033029	PPARA	Peroxisome proliferator-activated receptor alpha
E12	N/A	XM_001098685	PRKRA	Protein kinase, interferon-inducible double stranded RNA dependent activator
F01	N/A	XM_001107538	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
F02	N/A	XM_001115312	REL	V-rel reticuloendotheliosis viral oncogene homolog (avian)
F03	Mmu.12145	XM_001113258	RELA	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
F04	Mmu.2221	XM_001104559	RELB	V-rel reticuloendotheliosis viral oncogene homolog B
F05	Mmu.16218	XM_001084687	RIPK2	Receptor-interacting serine-threonine kinase 2
F06	N/A	XM_001106275	SARM1	Sterile alpha and TIR motif containing 1
F07	Mmu.12989	XM_001084664	TAB2	TGF-beta activated kinase 1/MAP3K7 binding protein 2
F08	Mmu.13050	XM_001116924	TBK1	TANK-binding kinase 1
F09	Mmu.3854	NM_001130428	TICAM1	Toll-like receptor adaptor molecule 1
F10	Mmu.1118	XM_002804482	TICAM2	Toll-like receptor adaptor molecule 2
F11	Mmu.17493	NM_001130435	TIRAP	Toll-interleukin 1 receptor (TIR) domain containing adaptor protein
F12	Mmu.4217	NM_001130424	TLR1	Toll-like receptor 1
G01	Mmu.13239	NM_001130434	TLR10	Toll-like receptor 10
G02	Mmu.3812	NM_001130425	TLR2	Toll-like receptor 2
G03	Mmu.3813	NM_001036685	TLR3	Toll-like receptor 3
G04	Mmu.3814	NM_001037092	TLR4	Toll-like receptor 4
G05	Mmu.3815	NM_001130429	TLR5	Toll-like receptor 5
G06	Mmu.3816	NM_001130430	TLR6	Toll-like receptor 6
G07	Mmu.3817	NM_001130426	TLR7	Toll-like receptor 7
G08	Mmu.3818	NM_001130427	TLR8	Toll-like receptor 8
G09	Mmu.3819	NM_001130431	TLR9	Toll-like receptor 9
G10	Mmu.3364	NM_001047149	TNF	Tumor necrosis factor
G11	Mmu.12049	XM_001118232	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A
G12	N/A	XM_001090075	TOLLIP	Toll interacting protein
H01	Mmu.4974	NM_001033084	ACTB	Actin, beta
H02	Mmu.5037	NM_001047137	B2M	Beta-2-microglobulin
H03	Mmu.3145	XM_001105471	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mmu.12316	XM_001097691	LOC709186	Hypoxanthine-guanine phosphoribosyltransferase-like
H05	Mmu.2512	XM_001115079	RPL13A	Ribosomal protein L13A
H06	N/A	SA_00125	QGDC	Rhesus Macaque 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 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.

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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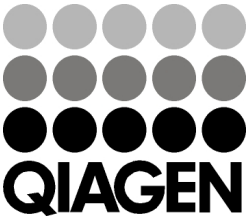

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