RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Toll-Like Receptor Signaling Pathway

Cat. no. 330231 PARN-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 Rat 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*.

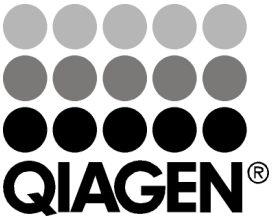
Shipping and storage

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	Rn.26996	NM_001007798	Btk	Bruton agammaglobulinemia tyrosine kinase
A02	Rn.54474	NM_022277	Casp8	Caspase 8
A03	Rn.4772	NM_031530	Ccl2	Chemokine (C-C motif) ligand 2
A04	Rn.42942	NM_021744	Cd14	CD14 molecule
A05	Rn.214157	NM_001106405	Cd180	CD180 molecule
A06	Rn.10138	NM_012926	Cd80	Cd80 molecule
A07	Rn.6734	NM_020081	Cd86	CD86 molecule
A08	Rn.6479	NM_024125	Cebpb	CCAAT/enhancer binding protein (C/EBP), beta
A09	Rn.23019	NM_001107588	Chuk	Conserved helix-loop-helix ubiquitous kinase
A10	Rn.127512	NM_001005897	Clec4e	C-type lectin domain family 4, member e
A11	Rn.44285	XM_340799	Csf2	Colony stimulating factor 2 (granulocyte-macrophage)
A12	Rn.53973	NM_017104	Csf3	Colony stimulating factor 3 (granulocyte)
B01	Rn.10584	NM_139089	Cxcl10	Chemokine (C-X-C motif) ligand 10
B02	Rn.10022	NM_019335	Eif2ak2	Eukaryotic translation initiation factor 2-alpha kinase 2
B03	Rn.16183	NM_152937	Fadd	Fas (TNFRSF6)-associated via death domain
B04	Rn.103750	NM_022197	Fos	FBJ osteosarcoma oncogene
B05	Rn.4121	NM_012963	Hmgb1	High mobility group box 1
B06	Rn.102180	NM_001098241	Hras	Harvey rat sarcoma virus oncogene
B07	Rn.1950	NM_031971	Hspa1a	Heat shock 70kD protein 1A
B08	Rn.102058	NM_022229	Hspd1	Heat shock protein 1 (chaperonin)
B09	Rn.196548	NM_001014786	Ifna1	Interferon-alpha 1
B10	Rn.138105	NM_019127	Ifnb1	Interferon beta 1, fibroblast
B11	Rn.10795	NM_138880	Ifng	Interferon gamma
B12	Rn.19222	NM_053355	Ikbkb	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
C01	Rn.9868	NM_012854	Il10	Interleukin 10
C02	Rn.207199	NM_053390	Il12a	Interleukin 12a
C03	Rn.12300	NM_017019	Il1a	Interleukin 1 alpha
C04	Rn.9869	NM_031512	Il1b	Interleukin 1 beta
C05	Rn.9758	NM_013123	Il1r1	Interleukin 1 receptor, type I
C06	Rn.9871	NM_053836	Il2	Interleukin 2
C07	Rn.9873	NM_012589	Il6	Interleukin 6
C08	Rn.1716	NM_017020	Il6r	Interleukin 6 receptor
C09	Rn.22238	NM_001127555	Irak1	Interleukin-1 receptor-associated kinase 1
C10	Rn.17123	NM_001025422	Irak2	Interleukin-1 receptor-associated kinase 2
C11	Rn.6396	NM_012591	Irf1	Interferon regulatory factor 1
C12	Rn.1499	NM_001006969	Irf3	Interferon regulatory factor 3
D01	Rn.93714	NM_021835	Jun	Jun oncogene
D02	Rn.30029	NM_145095	Kcnh8	Potassium voltage-gated channel, subfamily H (eag-related), member 8
D03	Rn.160577	NM_080769	Lta	Lymphotoxin alpha (TNF superfamily, member 1)
D04	Rn.141496	NM_001024279	Ly96	Lymphocyte antigen 96
D05	Rn.10174	NM_012798	Mal	Mal, T-cell differentiation protein
D06	Rn.100064	NM_001100674	Map2k3	Mitogen activated protein kinase kinase 3
D07	Rn.198875	NM_001030023	Map2k4	Mitogen activated protein kinase kinase 4
D08	Rn.11081	NM_053887	Map3k1	Mitogen activated protein kinase kinase kinase 1
D09	Rn.24019	NM_001107920	Map3k7	Mitogen activated protein kinase kinase kinase 7
D10	Rn.101820	NM_001106904	Map4k4	Mitogen-activated protein kinase kinase kinase kinase 4
D11	Rn.4090	XM_341399	Mapk8	Mitogen-activated protein kinase 8
D12	Rn.16158	NM_001100673	Mapk8ip3	Mitogen-activated protein kinase 8 interacting protein 3
E01	Rn.9910	NM_017322	Mapk9	Mitogen-activated protein kinase 9
E02	Rn.37341	NM_198130	Myd88	Myeloid differentiation primary response gene 88
E03	Rn.2411	XM_342346	Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E04	Rn.204814	NM_001008349	Nfkb2	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 2, p49/p100
E05	Rn.12550	NM_001105720	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E06	Rn.8395	NM_030867	Nfkbib	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, beta
E07	Rn.38632	NM_212509	Nfkbil1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor-like 1

Position	UniGene	GenBank	Symbol	Description
E08	Rn.96240	NM_001108133	Nfrkb	Nuclear factor related to kappa B binding protein
E09	Rn.10485	NM_017323	Nr2c2	Nuclear receptor subfamily 2, group C, member 2
E10	Rn.22814	NM_001100565	Peli1	Pellino 1
E11	Rn.2834	NM_053373	Pglyrp1	Peptidoglycan recognition protein 1
E12	Rn.9753	NM_013196	Ppara	Peroxisome proliferator activated receptor alpha
F01	Rn.44369	NM_017232	Ptgs2	Prostaglandin-endoperoxide synthase 2
F02	Rn.106948	XM_223688	Rel	V-rel reticuloendotheliosis viral oncogene homolog (avian)
F03	Rn.19480	NM_199267	Rela	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
F04	Rn.102179	XM_342810	Ripk2	Receptor-interacting serine-threonine kinase 2
F05	Rn.6814	NM_053588	Rnf138	Ring finger protein 138
F06	Rn.67850	NM_001105817	Sarm1	Sterile alpha and TIR motif containing 1
F07	Rn.30683	NM_001106786	Tbk1	TANK-binding kinase 1
F08	Rn.160921	NM_001108890	Ticam2	Toll-like receptor adaptor molecule 2
F09	Rn.107212	NM_001172120	Tlr1	Toll-like receptor 1
F10	Rn.46387	NM_198769	Tlr2	Toll-like receptor 2
F11	Rn.15273	NM_198791	Tlr3	Toll-like receptor 3
F12	Rn.14534	NM_019178	Tlr4	Toll-like receptor 4
G01	Rn.198962	NM_001145828	Tlr5	Toll-like receptor 5
G02	Rn.163249	NM_207604	Tlr6	Toll-like receptor 6
G03	Rn.219862	NM_001097582	Tlr7	Toll-like receptor 7
G04	Rn.92495	NM_198131	Tlr9	Toll-like receptor 9
G05	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G06	Rn.11119	NM_013091	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a
G07	Rn.17607	NM_001024771	Tnip2	TNFAIP3 interacting protein 2
G08	Rn.137040	NM_001109668	Tollip	Toll interacting protein
G09	Rn.18545	NM_001100480	Tradd	TNFRSF1A-associated via death domain
G10	Rn.220435	NM_001107754	Traf6	Tnf receptor-associated factor 6
G11	Rn.165094	NM_053928	Ube2n	Ubiquitin-conjugating enzyme E2N (UBC13 homolog, yeast)
G12	Rn.133763	NM_001110345	Ube2v1	Ubiquitin-conjugating enzyme E2 variant 1
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.
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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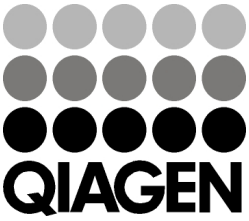

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