

RT² Profiler PCR Array (Rotor-Gene® Format)

Chicken Antibacterial Response

Cat. no. 330231 PAGG-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 Chicken 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 appear 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*.

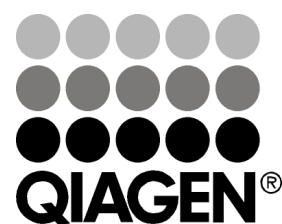
Shipping and storage

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	Gga.3875	NM_205055	AKT1	V-akt murine thymoma viral oncogene homolog 1
A02	Gga.12898	XM_419544	AKT3	V-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma)
A03	Gga.2796	NM_001201487	BCL10	B-cell CLL/lymphoma 10
A04	Gga.21826	NM_001007822	BIRC2	Baculoviral IAP repeat containing 2
A05	Gga.11658	XM_417465	BPI	Bactericidal/permeability-increasing protein
A06	Gga.28679	NM_001024830	CAMP	Cathelicidin antimicrobial peptide
A07	Gga.17565	XM_425329	CARD9	Caspase recruitment domain family, member 9
A08	Gga.10204	NM_204924	CASP1	Caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)
A09	Gga.2451	NM_204592	CASP8	Caspase 8, apoptosis-related cysteine peptidase
A10	Gga.255	NM_204720	CCL4	Chemokine (C-C motif) ligand 4
A11	Gga.9563	NM_001045832	CCL5	Chemokine (C-C motif) ligand 5
A12	Gga.47479	NM_001139478	CD14	CD14 molecule
B01	Gga.5483	NM_001012904	CHUK	Conserved helix-loop-helix ubiquitous kinase
B02	Gga.33713	NM_001039564	CRP	C-reactive protein, pentraxin-related
B03	Gga.6553	XM_423728	CTSG	Cathepsin G
B04	Gga.483	NM_204971	CTSK	Cathepsin K
B05	Gga.175	NM_204650	DEFB1	Defensin, beta 1
B06	Gga.45540	XM_424429	DMBT1	Deleted in malignant brain tumors 1
B07	Gga.30321	XM_421073	FADD	Fas (TNFRSF6)-associated via death domain
B08	Gga.8709	NM_205508	FOS	FBJ murine osteosarcoma viral oncogene homolog
B09	Gga.674	NM_205223	GCH1	GTP cyclohydrolase 1 (dopa-responsive dystonia)
B10	Gga.6482	NM_001109785	HSP90AA1	Heat shock protein 90kDa alpha (cytosolic), class A member 1
B11	Gga.4724	NM_204289	HSP90B1	Heat shock protein 90kDa beta (Grp94), member 1
B12	Gga.801	NM_205427	IFNA3	Interferon
C01	Gga.22865	NM_001024836	IFNB	Interferon beta
C02	Gga.12915	NM_001031397	IKBKB	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
C03	Gga.14433	NM_213571	IL12B	Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40)
C04	Gga.42408	NM_204608	IL18	Interleukin 18 (interferon-gamma-inducing factor)
C05	Gga.19	NM_204524	IL1B	Interleukin 1, beta
C06	Gga.2769	NM_204628	IL6	Interleukin 6 (interferon, beta 2)
C07	Gga.512	NM_205018	IL8	Interleukin 8
C08	Gga.7865	NM_001030605	IRAK2	Interleukin-1 receptor-associated kinase 2
C09	Gga.22347	NM_001030738	IRAK4	Interleukin-1 receptor-associated kinase 4
C10	Gga.22303	NM_001031587	IRF5	Interferon regulatory factor 5
C11	Gga.1087	NM_205372	IRF7	Interferon regulatory factor 7
C12	Gga.1473	NM_001031289	JUN	Jun proto-oncogene
D01	Gga.3383	NM_204267	LITAF	Lipopolysaccharide-induced TNF factor
D02	Gga.46094	XM_415289	LOC416998	Similar to NALP1
D03	Gga.12407	XM_420608	LOC422654	Similar to K60 protein
D04	Gga.16015	XM_422818	LOC425015	Similar to caspase recruitment domain protein 7
D05	Gga.47699	NM_205304	LTF	Lactotransferrin
D06	Gga.5743	XM_001232092	LY96	Lymphocyte antigen 96
D07	Gga.713	NM_205281	LYZ	Lysozyme (renal amyloidosis)
D08	Gga.31942	XM_413722	MALT1	Mucosa associated lymphoid tissue lymphoma translocation gene 1
D09	Gga.1443	NM_001005830	MAP2K1	Mitogen-activated protein kinase kinase 1
D10	Gga.17383	NM_001012787	MAP2K3	Mitogen-activated protein kinase kinase 3
D11	Gga.26783	XM_415583	MAP2K4	Mitogen-activated protein kinase kinase 4
D12	Gga.12434	XM_001233490	MAP3K7	Mitogen-activated protein kinase kinase kinase 7
E01	Gga.8861	XM_418581	MAP3K8	Mitogen-activated protein kinase kinase kinase 8
E02	Gga.2163	NM_204150	MAPK1	Mitogen-activated protein kinase 1
E03	Gga.22642	XM_001232615	MAPK14	Mitogen-activated protein kinase 14
E04	Gga.1147	XM_001233168	MAPK8	Mitogen-activated protein kinase 8
E05	Gga.2913	NM_205280	MBP	Myelin basic protein
E06	Gga.23215	XM_415716	MPO	Myeloperoxidase
E07	Gga.17397	NM_001030962	MYD88	Myeloid differentiation primary response gene (88)
E08	Gga.4408	NM_205134	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1

Position	UniGene	GenBank	Symbol	Description
E09	Gga.41891	NM_001001472	NFKBIA	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E10	Gga.29873	XR_026902	NLRC3	NLR family, CARD domain containing 3
E11	Gga.22808	XM_001233261	NLRP3	NLR family, pyrin domain containing 3
E12	Gga.40185	XM_418777	NOD1	Nucleotide-binding oligomerization domain containing 1
F01	N/A	NM_001004410	PIK3CA	Phosphoinositide-3-kinase, catalytic, alpha polypeptide
F02	Gga.22736	NM_001031311	PIK3CB	Phosphoinositide-3-kinase, catalytic, beta polypeptide
F03	Gga.40543	NM_001199538	PIK3CG	Phosphoinositide-3-kinase, catalytic, gamma polypeptide
F04	Gga.18018	XM_001232235	PIK3R1	Phosphoinositide-3-kinase, regulatory subunit 1 (p85 alpha)
F05	Gga.5204	XM_001233859	PRDX1	Peroxiredoxin 1
F06	Gga.25391	XM_413733	PSTPIP1	Proline-serine-threonine phosphatase interacting protein 1
F07	Gga.42578	NM_205017	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
F08	Gga.604	NM_205129	RELA	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
F09	Gga.5199	NM_204402	RIPK1	Receptor (TNFRSF)-interacting serine-threonine kinase 1
F10	Gga.22379	NM_001030943	RIPK2	Receptor-interacting serine-threonine kinase 2
F11	Gga.477	NM_204964	SLC11A1	Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1
F12	Gga.5492	NM_001030823	SUGT1	SGT1, suppressor of G2 allele of SKP1 (S. cerevisiae)
G01	Gga.5319	NM_001006240	TAB1	TGF-beta activated kinase 1/MAP3K7 binding protein 1
G02	Gga.12009	NM_001081506	TICAM1	Toll-like receptor adaptor molecule 1
G03	Gga.12311	NM_001024829	TIRAP	Toll-interleukin 1 receptor (TIR) domain containing adaptor protein
G04	Gga.22171	NM_001030558	TLR21	Toll-like receptor 21
G05	Gga.46177	NM_0011161650	TLR2-2	Toll-like receptor 2
G06	Gga.32116	NM_001030693	TLR4	Toll-like receptor 4
G07	Gga.3252	NM_001024586	TLR5	Toll-like receptor 5
G08	Gga.22623	NM_001007488	TLR6	Toll-like receptor 6
G09	Gga.3371	NM_001030779	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A
G10	Gga.42665	NM_001006471	TOLLIP	Toll interacting protein
G11	Gga.31230	XM_421089	TRAF6	TNF receptor-associated factor 6
G12	Gga.104	NM_204588	XIAP	X-linked inhibitor of apoptosis
H01	Gga.6076	NM_205518	ACTB	Actin, beta
H02	Gga.44427	XM_425746	H6PD	Hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase)
H03	Gga.8480	XM_417846	HMBS	Hydroxymethylbilane synthase
H04	Gga.4523	NM_001007479	RPL4	Ribosomal protein L4
H05	Gga.39142	XM_001234599	UBC	Ubiquitin C
H06	N/A	SA_00517	GGDC	Chicken 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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