

RT² Profiler PCR Array (Rotor-Gene® Format)

Dog Innate & Adaptive Immune Responses

Cat. no. 330231 PAFD-052ZR

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 Dog Innate & Adaptive Immune Responses RT² Profiler PCR Array profiles the expression of 84 genes involved in the host response to bacterial infection and sepsis. This array includes genes related to the IL-1R and toll-like receptor (TLR) signaling pathways including IL-1R and TLR genes involved in the detection of pathogens. Genes related to the host defense to bacteria are represented on this array including genes involved in the detection of bacteria and genes involved in the acute-phase response, complement activation, the inflammatory response, and the antibacterial humoral response. Genes involved in the innate immune response and septic shock are also included on this array. A set of controls present on each array enables data analysis using the $\Delta\Delta CT$ method of relative quantification as well as assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably analyze expression of a focused panel of genes related to the innate and adaptive immune responses 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	Assay
A01	N/A	XM_003640205	APCS	Amyloid P component, serum	PPF18154A
A02	N/A	XM_005633228	C3	Complement component 3	PPF02253A
A03	Cfa.3834	NM_001003373	C5AR1	Complement component 5a receptor 1	PPF00630A
A04	Cfa.4552	NM_001003359	CAMP	Cathelicidin antimicrobial peptide	PPF00604A
A05	Cfa.3589	NM_001003125	CASP4	Caspase 4, apoptosis-related cysteine peptidase	PPF00299A
A06	Cfa.3851	NM_001003297	CCL2	Chemokine (C-C motif) ligand 2	PPF00532A
A07	Cfa.36214	NM_001005251	CCL3	Chemokine (C-C motif) ligand 3	PPF00668A
A08	Cfa.21	NM_001003010	CCL5	Chemokine (C-C motif) ligand 5	PPF00117A
A09	Cfa.56	NM_001003020	CCR4	Chemokine (C-C motif) receptor 4	PPF00130A
A10	Cfa.16327	NM_001012342	CCR5	Chemokine (C-C motif) receptor 5	PPF07083B
A11	N/A	XM_541197	CCR6	Chemokine (C-C motif) receptor 6	PPF06681A
A12	N/A	XM_542719	CCR8	Chemokine (C-C motif) receptor 8	PPF07530A
B01	Cfa.6175	XM_843653	CD14	CD14 molecule	PPF11332A
B02	Cfa.18390	NM_001128837	CD1A6	CD1a molecule	PPF09198A
B03	Cfa.14490	NM_001130832	CD209	CD209 molecule	PPF07208A
B04	Cfa.3508	NM_001003087	CD28	CD28 molecule	PPF00225A
B05	Cfa.3673	NM_001003252	CD4	CD4 molecule	PPF00484A
B06	Cfa.180	NM_001002982	CD40	CD40 molecule, TNF receptor superfamily member 5	PPF00069A
B07	Cfa.179	NM_001002981	CD40LG	CD40 ligand	PPF00068A
B08	Cfa.29354	NM_001003147	CD80	CD80 molecule	PPF00337A
B09	Cfa.3629	NM_001003146	CD86	CD86 molecule	PPF00336A
B10	Cfa.3636	NM_001002935	CD8A	CD8a molecule	PPF00006A
B11	N/A	XM_545746	CRP	C-reactive protein, pentraxin-related	PPF09206A
B12	Cfa.3784	NM_001003245	CSF2	Colony stimulating factor 2 (granulocyte-macrophage)	PPF00477A
C01	Cfa.16590	NM_001010949	CXCL10	Chemokine (C-X-C motif) ligand 10	PPF03350A
C02	Cfa.16339	NM_001011887	CXCR3	Chemokine (C-X-C motif) receptor 3	PPF11059A
C03	Cfa.4547	NM_001287153	FASLG	Fas ligand (TNF superfamily, member 6)	PPF00624A
C04	Cfa.47639	NM_001168461	FOXP3	Forkhead box P3	PPF11019A
C05	N/A	XM_844060	GATA3	GATA binding protein 3	PPF08397A
C06	Cfa.3842	NM_001003291	ICAM1	Intercellular adhesion molecule 1	PPF00526A
C07	Cfa.47521	NM_001135787	IFNB1	Interferon, beta 1, fibroblast	PPF05300A
C08	Cfa.3900	NM_001003174	IFNG	Interferon gamma	PPF00369A
C09	Cfa.38	NM_001003077	IL10	Interleukin 10	PPF00207A
C10	Cfa.3566	NM_001003384	IL13	Interleukin 13	PPF00643A
C11	Cfa.131	NM_001197188	IL15	Interleukin 15	PPF00167A
C12	Cfa.47634	NM_001165878	IL17A	Interleukin 17A	PPF05475A
D01	Cfa.40	NM_001003169	IL18	Interleukin 18 (interferon-gamma-inducing factor)	PPF00364A
D02	Cfa.3645	NM_001003157	IL1A	Interleukin 1, alpha	PPF00350A
D03	Cfa.33592	NM_001037971	IL1B	Interleukin 1, beta	PPF00525A
D04	N/A	XM_538449	IL1R1	Interleukin 1 receptor, type 1	PPF05183A
D05	Cfa.7	NM_001003305	IL2	Interleukin 2	PPF00540A
D06	Cfa.39	NM_001003159	IL4	Interleukin 4	PPF00353A
D07	Cfa.3486	NM_001006950	IL5	Interleukin 5 (colony-stimulating factor, eosinophil)	PPF00358A
D08	Cfa.3528	NM_001003301	IL6	Interleukin 6 (interferon, beta 2)	PPF00536A
D09	Cfa.3510	NM_001003200	CXCL8	Interleukin 8	PPF00414A
D10	N/A	XM_549367	IRAK1	Interleukin-1 receptor-associated kinase 1	PPF11178A
D11	N/A	XM_005616307	IRF3	Interferon regulatory factor 3	PPF02029A
D12	N/A	XM_537138	IRF6	Interferon regulatory factor 6	PPF04392A
E01	N/A	XM_005621235	ITGAM	Integrin, alpha M (complement component 3 receptor 3 subunit)	PPF10012A
E02	N/A	XM_541301	JAK2	Janus kinase 2	PPF06726A
E03	N/A	XM_542993	LBP	Lipopolysaccharide binding protein	PPF07688A
E04	N/A	XM_848045	LY96	Lymphocyte antigen 96	PPF12773A
E05	N/A	NM_001300876	LYZ	Lysozyme	PPF00748B
E06	Cfa.2796	NM_001110800	MAPK1	Mitogen-activated protein kinase 1	PPF02798A
E07	N/A	XM_534943	MAPK8	Mitogen-activated protein kinase 8	PPF02911A
E08	N/A	XM_847352	MPO	Myeloperoxidase	PPF12554A
				Myxovirus (influenza virus) resistance 1, interferon-inducible protein	

Position	UniGene	GenBank	Symbol	Description	Assay
E09	Cfa.3610	NM_001003134	MX1	p78 (mouse)	PPF00319A
E10	N/A	XM_534223	MYD88	Myeloid differentiation primary response gene (88)	PPF02444A
E11	Cfa.10766	NM_001003344	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1	PPF00590A
E12	N/A	XM_537413	NFKBIA	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha	PPF04570A
F01	N/A	XM_005623148	NLRP3	NLR family, pyrin domain containing 3	PPF10393A
F02	Cfa.48412	XM_539499	NOD1	Nucleotide-binding oligomerization domain containing 1	PPF05758A
F03	Cfa.48442	NM_001287039	NOD2	Nucleotide-binding oligomerization domain-containing protein 2	PPF08487A
F04	N/A	XM_540538	RAG1	Recombination activating gene 1	PPF06313A
F05	N/A	XM_005630825	RORC	RAR-related orphan receptor C	PPF06176A
F06	Cfa.14639	NM_001013851	SLC11A1	Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1	PPF03655A
F07	N/A	XM_843260	STAT1	Signal transducer and activator of transcription 1, 91kDa	PPF09104A
F08	N/A	XM_548090	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)	PPF10603A
F09	N/A	XM_005640465	STAT4	Signal transducer and activator of transcription 4	PPF03614A
F10	Cfa.47144	XM_003431442	STAT6	Signal transducer and activator of transcription 6, interleukin-4 induced	PPF18155A
F11	N/A	XM_548164	TBX21	T-box 21	PPF10648A
F12	N/A	XM_005633023	TICAM1	Toll-like receptor adaptor molecule 1	PPF13348A
G01	Cfa.47631	NM_001146143	TLR1	Toll-like receptor 1	PPF09332A
G02	Cfa.15802	NM_001005264	TLR2	Toll-like receptor 2	PPF00682B
G03	Cfa.48411	XM_540020	TLR3	Toll-like receptor 3	PPF06012A
G04	Cfa.118	NM_001002950	TLR4	Toll-like receptor 4	PPF00025A
G05	Cfa.48854	NM_001197176	TLR5	Toll-like receptor 5	PPF09196A
G06	Cfa.47631	XM_005618633	TLR6	Toll-like receptor 6	PPF18156A
G07	Cfa.24654	NM_001048124	TLR7	Toll-like receptor 7	PPF10960A
G08	Cfa.48660	XM_003435448	TLR8	Toll-like receptor 8	PPF18157A
G09	Cfa.824	NM_001002998	TLR9	Toll-like receptor 9	PPF00100A
G10	Cfa.54	NM_001003244	TNF	Tumor necrosis factor	PPF00476A
G11	N/A	XM_003432322	TRAF6	TNF receptor-associated factor 6, E3 ubiquitin protein ligase	PPF18153A
G12	N/A	XM_014122225	TYK2	Tyrosine kinase 2	PPF02242A
H01	Cfa.17735	NM_001195845	ACTB	Actin, beta	PPF12880A
H02	N/A	XM_535458	B2M	Beta-2-microglobulin	PPF03253A
H03	Cfa.36213	NM_001003142	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase	PPF00328A
H04	Cfa.4551	NM_001003357	HPRT1	Hypoxanthine phosphoribosyltransferase 1	PPF00602A
H05	N/A	XM_014109387	RPLP1	Ribosomal protein, large, P1	PPF03305A
H06	N/A	SA_00130	FGDC	Dog Genomic DNA Contamination	PPF68934A
H07	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H08	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H09	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H10	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H11	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H12	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A

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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