

# RT<sup>2</sup> Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

## Pig Inflammatory Cytokines & Receptors

Cat. no. 330231 PASS-011ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array, Format A	Applied Biosystems <sup>®</sup> models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad <sup>®</sup> models iCycler <sup>®</sup> , iQ™ 5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf <sup>®</sup> Mastercycler <sup>®</sup> ep realplex models 2, 2s, 4, 4s; Stratagene <sup>®</sup> models Mx3005P <sup>®</sup> , Mx3000P <sup>®</sup> ; Takara TP-800
RT <sup>2</sup> Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT <sup>2</sup> Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon <sup>®</sup> , DNA Engine Opticon 2; Stratagene Mx4000 <sup>®</sup>
RT <sup>2</sup> Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT <sup>2</sup> Profiler PCR Array, Format F	Roche <sup>®</sup> LightCycler <sup>®</sup> 480 (96-well block)
RT <sup>2</sup> Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT <sup>2</sup> Profiler PCR Array, Format H	Fluidigm <sup>®</sup> BioMark™



Sample & Assay Technologies

## Description

The Pig Inflammatory Cytokines & Receptors RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes mediating the inflammatory response. Acute inflammation occurs in response to cell damage due to infection or injury. During this process, cellular and plasma-derived factors encourage extravasation - the recruitment of circulating immune cells into the affected tissue. These immune cells in turn upregulate the expression of inflammatory cytokines that recruit additional immune cells to mount an immune response to any invading organisms and to further promote and eventually resolve the inflammatory response. Chronic inflammation, or expression of these cytokines and receptors at low levels over long periods of time, promotes various pathological conditions including allergies and asthma, cardiovascular system disorders (atherosclerosis), central nervous system disorders (Alzheimer's disease), fibrosis, and rheumatoid arthritis. This array contains genes involved in mediating immune cascade reactions during inflammation. The chemokines, cytokines, and interleukins involved in the inflammatory response are represented as well as their receptors. Profiling the expression of these inflammatory cytokine and receptor genes helps determine the state of and the mechanisms behind inflammation in your experimental model system. Using real-time PCR, research studies can easily and reliably analyze expression of a focused panel of genes related to inflammation with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

## Shipping and storage

RT<sup>2</sup> Profiler PCR Arrays in formats A, C, D, E, F, and G are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products. RT<sup>2</sup> Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

For long term storage, keep plates at -20°C.

**Note:** Ensure that you have the correct RT<sup>2</sup> Profiler PCR Array format for your real-time cycler (see table above).

**Note:** Open the package and store the products appropriately immediately on receipt.

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## Array layout (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT<sup>2</sup> Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	AIMP1	BMP2	C5	CCL1	CCL17	CCL2	CCL20	CCL21	CCL22	CCL3L1	CCL4	CCL5
B	CCL8	CCR1	CCR10	CCR2	CCR3	CCR4	CCR5	CCR7	CD40LG	CD70	CSF1	CSF2
C	CSF3	CXCL10	CXCL11	CXCL12	CXCL2	CXCL9	CXCR2	CXCR4	FASLG	FLT3LG	IFNG	IL10
D	IL10RA	IL10RB	IL12B	IL13	IL15	IL16	IL17A	IL17F	IL18	IL-18RA	IL1A	IL1B
E	IL1RN	IL21	IL23A	IL27	IL2RG	IL4	IL4R	IL-5	IL5RA	IL6	IL6R	IL6ST
F	IL7	IL7R	IL8	IL9	LIF	LOC1001520 38	LOC1005141 56	LOC1005186 43	LOC1005194 68	LOC1005216 16	LOC1006216 82	LOC1006217 76
G	LTA	LTB	MIF	NAMPT	SPP1	TGFB2	TNF	TNFRSF11B	TNFSF10	TNFSF13B	TNFRS4	VEGFA
H	ACTB	B2M	GAPDH	HPRT1	RPL13A	SGDC	RTC	RTC	RTC	PPC	PPC	PPC

## Gene table: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Ssc.56768	NM_001114283	AIMP1	Aminoacyl tRNA synthetase complex-interacting multifunctional protein 1
A02	Ssc.4190	NM_001195399	BMP2	Bone morphogenetic protein 2
A03	Ssc.21108	NM_001001646	C5	Complement component 5
A04	Ssc.78517	NM_001166491	CCL1	Chemokine (C-C motif) ligand 1
A05	Ssc.42664	NM_001256147	CCL17	Chemokine ligand 17-like protein
A06	Ssc.657	NM_214214	CCL2	Chemokine (C-C motif) ligand 2
A07	Ssc.42745	NM_001024589	CCL20	Chemokine (C-C motif) ligand 20
A08	Ssc.18613	NM_001005151	CCL21	Chemokine (C-C motif) ligand 21
A09	Ssc.48467	NM_001256776	CCL22	C-C motif chemokine 22-like
A10	Ssc.43937	NM_001009579	CCL3L1	Chemokine (C-C motif) ligand 3-like 1
A11	Ssc.23797	NM_213779	CCL4	Chemokine (C-C motif) ligand 4
A12	Ssc.22030	NM_001129946	CCL5	Chemokine (C-C motif) ligand 5
B01	Ssc.9957	NM_001164515	CCL8	Chemokine (C-C motif) ligand 8
B02	Ssc.18359	NM_001001621	CCR1	Chemokine (C-C motif) receptor 1
B03	Ssc.42655	NM_001044563	CCR10	Chemokine (C-C motif) receptor 10
B04	Ssc.26329	NM_001001619	CCR2	Chemokine (C-C motif) receptor 2
B05	Ssc.19054	NM_001001620	CCR3	Chemokine (C-C motif) receptor 3
B06	N/A	XM_003361791	CCR4	Chemokine (C-C motif) receptor 4
B07	Ssc.26328	NM_001001618	CCR5	Chemokine (C-C motif) receptor 5
B08	Ssc.16629	NM_001001532	CCR7	Chemokine (C-C motif) receptor 7
B09	Ssc.15861	NM_214126	CD40LG	CD40 ligand
B10	Ssc.42649	NM_001044531	CD70	CD70 molecule
B11	N/A	NM_001244523	CSF1	Colony stimulating factor 1 (macrophage)
B12	Ssc.382	NM_214118	CSF2	Colony stimulating factor 2 (granulocyte-macrophage)
C01	Ssc.16151	NM_213842	CSF3	Colony stimulating factor 3 (granulocyte)
C02	Ssc.35257	NM_001008691	CXCL10	Chemokine (C-X-C motif) ligand 10
C03	Ssc.72492	NM_001128491	CXCL11	Chemokine (C-X-C motif) ligand 11
C04	Ssc.26221	NM_001009580	CXCL12	Chemokine (C-X-C motif) ligand 12
C05	Ssc.80308	XM_003356973	CXCL2	Chemokine (C-X-C motif) ligand 2
C06	Ssc.26146	NM_001114289	CXCL9	Chemokine (C-X-C motif) ligand 9
C07	Ssc.38900	XM_003133651	CXCR2	Chemokine (C-X-C motif) receptor 2
C08	Ssc.7176	NM_213773	CXCR4	Chemokine (C-X-C motif) receptor 4
C09	Ssc.15870	NM_213806	FASLG	Fas ligand (TNF superfamily, member 6)
C10	Ssc.63662	XM_003127307	FLT3LG	Fms-related tyrosine kinase 3 ligand
C11	Ssc.4093	NM_213948	IFNG	Interferon-gamma
C12	Ssc.148	NM_214041	IL10	Interleukin 10
D01	Ssc.55412	XM_003129890	IL10RA	Interleukin 10 receptor, alpha
D02	Ssc.15484	NM_213771	IL10RB	Interleukin 10 receptor, beta
D03	Ssc.71	NM_214013	IL12B	Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40)
D04	Ssc.15877	NM_213803	IL13	Interleukin 13
D05	Ssc.8833	NM_214390	IL15	Interleukin 15
D06	Ssc.18652	NM_213751	IL16	Interleukin 16

Position	UniGene	GenBank	Symbol	Description
D07	Scs.42770	NM_001005729	IL17A	Interleukin 17A
D08	Scs.51662	XM_001924366	IL17F	Interleukin 17F
D09	Scs.20	NM_213997	IL18	Interleukin 18 (interferon-gamma-inducing factor)
D10	Scs.15792	NM_214098	IL-18RA	Interleukin-18 receptor alpha chain
D11	Scs.113	NM_214029	IL1A	Interleukin 1, alpha
D12	Scs.28829	NM_214055	IL1B	Interleukin 1, beta
E01	Scs.16250	NM_214262	IL1RN	Interleukin 1 receptor antagonist
E02	Scs.26323	NM_214415	IL21	Interleukin 21
E03	Scs.56047	NM_001130236	IL23A	Interleukin 23, alpha subunit p19
E04	Scs.36782	NM_001007520	IL27	Interleukin 27
E05	Scs.15739	NM_214083	IL2RG	Interleukin 2 receptor, gamma
E06	Scs.15837	NM_214123	IL4	Interleukin 4
E07	Scs.17244	NM_214340	IL4R	Interleukin 4 receptor
E08	Scs.528	NM_214205	IL-5	Interleukin 5
E09	Scs.69951	XM_003358500	IL5RA	Interleukin 5 receptor, alpha
E10	Scs.62	NM_214399	IL6	Interleukin 6 (interferon, beta 2)
E11	Scs.16374	NM_214403	IL6R	Interleukin 6 receptor
E12	Scs.25033	NM_001097432	IL6ST	Interleukin 6 signal transducer (gp130, oncostatin M receptor)
F01	Scs.15904	NM_214135	IL7	Interleukin 7
F02	Scs.47709	NM_001146128	IL7R	Interleukin 7 receptor
F03	Scs.658	NM_213867	IL8	Interleukin 8
F04	Scs.51687	NM_001166043	IL9	Interleukin 9
F05	Scs.52878	NM_214402	LIF	Leukemia inhibitory factor (cholinergic differentiation factor)
F06	Scs.90068	XM_001929161	LOC100152038	Oncostatin-M-like
F07	Scs.12313	XM_003124086	LOC100514156	Interleukin-17B-like
F08	Scs.85119	XM_003121912	LOC100518643	Interleukin-33-like
F09	N/A	XM_003123122	LOC100519468	Tumor necrosis factor ligand superfamily member 14-like
F10	Scs.50114	XM_003124679	LOC100521616	Interleukin-9 receptor-like
F11	N/A	XM_003357419	LOC100621682	Interleukin-24-like
F12	N/A	XM_003355343	LOC100621776	Hypothetical protein LOC100621776
G01	Scs.27595	NM_214453	LTA	Lymphotoxin alpha (TNF superfamily, member 1)
G02	Scs.15277	NM_001185138	LTB	Lymphotoxin beta (TNF superfamily, member 3)
G03	Scs.551	NM_001077213	MIF	Macrophage migration inhibitory factor (glycosylation-inhibiting factor)
G04	Scs.22083	NM_001031793	NAMPT	Nicotinamide phosphoribosyltransferase
G05	Scs.23321	NM_214023	SPP1	Secreted phosphoprotein 1
G06	Scs.10287	XM_003130499	TGFB2	Transforming growth factor, beta 2
G07	Scs.100	NM_214022	TNF	Tumor necrosis factor
G08	Scs.90180	XM_001927216	TNFRSF11B	Tumor necrosis factor receptor superfamily, member 11b
G09	Scs.94376	NM_001024696	TNFSF10	Tumor necrosis factor (ligand) superfamily, member 10
G10	Scs.47270	NM_001097498	TNFSF13B	Tumor necrosis factor (ligand) superfamily, member 13b
G11	Scs.23487	NM_001025217	TNFRS4	Tumor necrosis factor (ligand) superfamily, member 4
G12	Scs.57541	NM_214084	VEGFA	Vascular endothelial growth factor A
H01	Scs.10316	XM_003357928	ACTB	Actin, beta
H02	Scs.73773	NM_213978	B2M	Beta-2-microglobulin
H03	Scs.16135	NM_001206359	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Scs.4158	NM_001032376	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Scs.27927	XM_003127305	RPL13A	Ribosomal protein L13a
H06	N/A	SA_00133	SGDC	Pig 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, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> SYBR Green qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with real-time cyclers that do not require a reference dye, including: Bio-Rad models CFX96, CFX384, DNA Engine Opticon 2; Bio-Rad/MJ Research Chromo4; Roche LightCycler 480 (96-well and 384-well); all other cyclers	330500
RT <sup>2</sup> SYBR Green ROX™ qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Applied Biosystems models 5700, 7000, 7300, 7500 [Standard and FAST], 7700, 7900HT 96-well block [Standard and FAST] and 384-well block, StepOnePlus; Eppendorf Mastercycler ep realplex models 2, 2S, 4, 4S; Stratagene models Mx3000P, Mx3005P, Mx4000; Takara TP-800	330520
RT <sup>2</sup> SYBR Green Fluor qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Bio-Rad models iCycler, iQ5, MyiQ, MyiQ2	330510

\* Larger kit sizes available; please inquire.

RT<sup>2</sup> 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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