

RT² Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

Pig Antiviral Response RT² Profiler PCR Array

Cat. no. 330231 PASS-122ZA

For pathway expression analysis

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



Sample & Assay Technologies

Description

The Pig Antiviral Response RT² Profiler PCR Array profiles the expression of 84 key genes involved in the innate antiviral immune response. 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 viruses. These receptors recognize and bind viral DNA and RNA, activating downstream signaling to induce the expression of inflammatory cytokines including alpha and beta interferons. Alpha and beta interferons mediate type-I interferon signaling that activates dendritic and natural killer cells as well as the adaptive immune response. Some viral nucleic acids bind to multiple PRRs, and each immune cell type expresses a specific set of PRRs. This array contains the receptors and signaling effectors for TLRs, NLRs and RIG-I-like receptors, the genes responsive to these pathways, and the genes involved in type-I interferon signaling as well as downstream interferon-stimulated genes (ISGs). The results of this array will provide a better understanding of the interactions of these innate immune signaling networks with a specific viral infection. A set of controls present on each array enables data analysis using the $\Delta\Delta\text{CT}$ method of relative quantification and assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in innate immunity with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

Shipping and storage

RT² 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. RT² 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 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 (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT² Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	ATG5	AZI2	BCL2	CASP1	CASP10	CASP8	CCL3L1	CCL4	CCL5	CD40	CD80	CD86
B	CHUK	C-JUN	CSF2	CTSB	CTSL	CTSS	CXCL10	CXCL11	CXCL9	CXCR4	DAK	DDX3X
C	DDX58	DHX58	FOS	HSP90AA1	IFIH1	IFNAR1	IFNB1	IKKBK	IL12A	IL12B	IL15	IL18
D	IL1B	IL23A	IL6	IL8	IRAK1	IRF3	IRF5	IRF7	ISG15	LOC1006245 70	MAP2K1	MAP3K1
E	MAP3K7	MAP3K8	MAPK1	MAPK14	MAPK3	MAPK8	MAVS	MEFV	MX1	MYD88	NFKB1	NFKBIA
F	NLRP3	NOD2	OAS2	PELI1	PIN1	PSTPIP1	PYCARD	RELA	RIPK1	SPP1	STAT1	SUGT1
G	TBK1	TICAM2	TLR2	TLR3	TLR7	TLR8	TLR9	TNF	TRADD	TRAF3	TRAF6	TRIM25
H	ACTB	B2M	GAPDH	HPRT1	RPL13A	SGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Ssc.83739	NM_001037152	ATG5	ATG5 autophagy related 5 homolog (S. cerevisiae)
A02	N/A	XM_003358349	AZI2	5-azacytidine-induced protein 2-like
A03	Ssc.53633	XM_003121700	BCL2	B-cell CLL/lymphoma 2
A04	Ssc.16012	NM_214162	CASP1	Caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)
A05	Ssc.9544	NM_001161640	CASP10	Caspase 10, apoptosis-related cysteine peptidase
A06	Ssc.30615	NM_001031779	CASP8	Caspase 8, apoptosis-related cysteine peptidase
A07	Ssc.43937	NM_001009579	CCL3L1	Chemokine (C-C motif) ligand 3-like 1
A08	Ssc.23797	NM_213779	CCL4	Chemokine (C-C motif) ligand 4
A09	Ssc.22030	NM_001129946	CCL5	Chemokine (C-C motif) ligand 5
A10	Ssc.26880	NM_214194	CD40	CD40 molecule, TNF receptor superfamily member 5
A11	Ssc.15748	NM_214087	CD80	CD80 molecule
A12	Ssc.16160	NM_214222	CD86	CD86 molecule
B01	Ssc.21683	NM_001114279	CHUK	Conserved helix-loop-helix ubiquitous kinase
B02	Ssc.97579	NM_213880	C-JUN	C-JUN protein
B03	Ssc.382	NM_214118	CSF2	Colony stimulating factor 2 (granulocyte-macrophage)
B04	Ssc.53773	NM_001097458	CTSB	Cathepsin B
B05	Ssc.54036	NM_213892	CTSL	Cathepsin L1
B06	Ssc.55494	XM_005663494	CTSS	Cathepsin S
B07	Ssc.35257	NM_001008691	CXCL10	Chemokine (C-X-C motif) ligand 10
B08	Ssc.72492	NM_001128491	CXCL11	Chemokine (C-X-C motif) ligand 11
B09	Ssc.26146	NM_001114289	CXCL9	Chemokine (C-X-C motif) ligand 9
B10	Ssc.7176	NM_213773	CXCR4	Chemokine (C-X-C motif) receptor 4
B11	Ssc.96052	XM_003122641	DAK	Bifunctional ATP-dependent dihydroxyacetone kinase/FAD-AMP lyase (cyclizing)-like
B12	Ssc.6702	NM_001246203	DDX3X	DEAD (Asp-Glu-Ala-Asp) box polypeptide 3, X-linked
C01	Ssc.15885	NM_213804	DDX58	DEAD (Asp-Glu-Ala-Asp) box polypeptide 58
C02	Ssc.42824	NM_001199132	DHX58	DEXH (Asp-Glu-X-His) box polypeptide 58
C03	Ssc.1555	NM_001123113	FOS	FBJ murine osteosarcoma viral oncogene homolog
C04	Ssc.12191	NM_213973	HSP90AA1	90-kDa heat shock protein
C05	Ssc.19139	NM_001100194	IFIH1	Interferon induced with helicase C domain 1
C06	Ssc.11381	NM_213772	IFNAR1	Interferon (alpha, beta and omega) receptor 1
C07	Ssc.42778	NM_001003923	IFNB1	Interferon beta
C08	Ssc.31350	NM_001099935	IKKBK	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
C09	Ssc.13	NM_213993	IL12A	Interleukin 12A (natural killer cell stimulatory factor 1, cytotoxic lymphocyte maturation factor 1, p35)
C10	Ssc.71	NM_214013	IL12B	Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40)
C11	Ssc.8833	NM_214390	IL15	Interleukin 15
C12	Ssc.20	NM_213997	IL18	Interleukin 18 (interferon-gamma-inducing factor)
D01	Ssc.28829	NM_214055	IL1B	Interleukin 1, beta
D02	Ssc.56047	NM_001130236	IL23A	Interleukin 23, alpha subunit p19
D03	Ssc.62	NM_214399	IL6	Interleukin 6 (interferon, beta 2)
D04	Ssc.658	NM_213867	IL8	Interleukin 8

Position	UniGene	GenBank	Symbol	Description
D05	Ssc.19702	XM_003135490	IRAK1	Interleukin-1 receptor-associated kinase 1
D06	Ssc.79511	NM_213770	IRF3	Interferon regulatory factor 3
D07	N/A	XM_003134683	IRF5	Interferon regulatory factor 5-like
D08	Ssc.25739	NM_001097428	IRF7	Interferon regulatory factor 7
D09	Ssc.11557	NM_001128469	ISG15	ISG15 ubiquitin-like modifier
D10	N/A	XM_003355816	LOC100624570	Ubiquitin carboxyl-terminal hydrolase CYLD-like
D11	Ssc.81944	NM_001143716	MAP2K1	Mitogen-activated protein kinase kinase 1
D12	Ssc.19729	XM_003133973	MAP3K1	Mitogen-activated protein kinase kinase kinase 1
E01	Ssc.10311	NM_001114280	MAP3K7	Mitogen-activated protein kinase kinase kinase 7
E02	N/A	XM_005668087	MAP3K8	Mitogen-activated protein kinase kinase kinase 8
E03	Ssc.72142	NM_001198922	MAPK1	Extracellular signal-regulated kinase-2
E04	Ssc.11018	XM_001929490	MAPK14	Mitogen-activated protein kinase 14
E05	Ssc.96010	XM_003360728	MAPK3	Mitogen-activated protein kinase 3
E06	Ssc.83372	XM_003359272	MAPK8	Mitogen-activated protein kinase 8
E07	Ssc.49478	NM_001097429	MAVS	Mitochondrial antiviral signaling protein
E08	N/A	XM_005674459	MEFV	Mediterranean fever
E09	Ssc.221	NM_214061	MX1	Myxovirus (influenza virus) resistance 1, interferon-inducible protein p78 (mouse)
E10	Ssc.23492	NM_001099923	MYD88	Myeloid differentiation primary response gene (88)
E11	Ssc.17816	NM_001048232	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
E12	Ssc.4759	NM_001005150	NFKBIA	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
F01	Ssc.86156	NM_001256770	NLRP3	NLR family, pyrin domain containing 3
F02	Ssc.61109	NM_001105295	NOD2	Nucleotide-binding oligomerization domain containing 2
F03	Ssc.23483	NM_001031796	OAS2	2'-5'-oligoadenylate synthetase 2, 69/71kDa
F04	N/A	XM_003125095	PEL1	Pellino homolog 1 (Drosophila)
F05	Ssc.6063	NM_001244371	PIN1	Peptidylprolyl cis/trans isomerase, NIMA-interacting 1
F06	Ssc.39686	NM_001244186	PSTPIP1	Proline-serine-threonine phosphatase interacting protein 1
F07	N/A	XM_003124468	PYCARD	Apoptosis-associated speck-like protein containing a CARD-like
F08	Ssc.23557	NM_001114281	RELA	V-rel reticuloendotheliosis viral oncogene homolog A (avian)
F09	N/A	XM_003128161	RIPK1	Receptor (TNFRSF)-interacting serine-threonine kinase 1
F10	Ssc.23321	NM_214023	SPP1	Secreted phosphoprotein 1
F11	Ssc.42622	NM_213769	STAT1	Signal transducer and activator of transcription 1, 91kDa
F12	N/A	XM_003482900	SUGT1	SGT1, suppressor of G2 allele of SKP1 (S. cerevisiae)
G01	Ssc.6641	NM_001105292	TBK1	TANK-binding kinase 1
G02	Ssc.42527	NM_001204351	TICAM2	Toll-like receptor adaptor molecule 2
G03	Ssc.17337	NM_213761	TLR2	Toll-like receptor 2
G04	Ssc.51668	NM_001097444	TLR3	Toll-like receptor 3
G05	Ssc.100359	NM_001097434	TLR7	Toll-like receptor 7
G06	Ssc.17224	NM_214187	TLR8	Toll-like receptor 8
G07	Ssc.16634	NM_213958	TLR9	Toll-like receptor 9
G08	Ssc.100	NM_214022	TNF	Tumor necrosis factor
G09	Ssc.24906	XM_005659068	TRADD	TNFRSF1A-associated via death domain
G10	N/A	XM_005666443	TRAF3	TNF receptor-associated factor 3
G11	Ssc.96412	NM_001105286	TRAF6	TNF receptor-associated factor 6
G12	N/A	XM_005656967	TRIM25	Tripartite motif containing 25
H01	Ssc.10316	XM_003357928	ACTB	Actin, beta
H02	Ssc.73773	NM_213978	B2M	Beta-2-microglobulin
H03	Ssc.79971	NM_001206359	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Ssc.4158	NM_001032376	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Ssc.17024	NM_001244068	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, 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 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 ² 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 ² 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.

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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