

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

Pig T Helper Cell Differentiation

Cat. no. 330231 PASS-503Z

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 T Helper Cell Differentiation RT² Profiler PCR Array profiles the expression of 84 key genes regulating the commitment of precursor T cells to differentiate into specific effector subtypes. The two more well-known and characterized T helper cell subtypes, Th1 and Th2 cells, mediate cellular and humoral immune responses. Many published research studies find that one subtype population and its immune response tends to dominate in immune disorders such as allergy, asthma, autoimmunity, diabetes, hypersensitivity, and rheumatoid arthritis. The genes represented by this array include cytokines, cytokine receptors, transcription factors, and other signaling molecules regulating differentiation into Th1 or Th2 cells as well as specific markers for these subtypes. Profiling your research RNA samples from T cell population sources will help you correlate sub-type specific gene expression with experimentally-induced cellular or humoral immune responses. The results of this array can also help you provide insights into the molecular mechanisms and biological pathways behind T helper cell lineage commitment decisions in your model system. Using real-time PCR, your research study can easily and reliably analyze the expression of a focused panel of genes involved in T helper cell differentiation 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	CACNA1F	CCL5	CCR3	CCR4	CCR5	CCR6	CEBPB	CHD7	CXCR3	FASLG	FOSL1	FOXP3
B	GATA3	GATA4	HAVCR2	HOPX	HOXA10	HOXA11	HOXA3	ICOS	ID2	IFNG	IGSF6	IKZF2
C	IL10	IL12B	IL12RB2	IL13	IL13RA1	IL17A	IL17RE	IL18	IL18R1	IL18RAP	IL1R2	IL1RL1
D	IL2	IL21	IL2RA	IL4	IL4R	IL5	IL6	IL6R	IL9	IRF1	IRF4	IRF8
E	JAK1	KIF2C	ASB2	LOC1001566 37	LOC1005200 45	LOC1005203 25	LRRC32	MAF	MYB	NFATC2	NFATC2IP	NR4A3
F	PCGF2	PKD2	PPARG	PTGDR2	REL	RELB	RORC	RUNX1	SOCS1	SOCS5	STAT1	STAT4
G	STAT6	TBX21	TGIF1	TLR4	TLR6	TNF	TNFRSF9	TNFSF11	TOX	TP53INP1	UTS2	ZBTB7B
H	ACTB	B2M	GAPDH	HPRT1	RPL13A	SGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description	Assay
A01	N/A	XM_003135084	CACNA1F	Calcium channel, voltage-dependent, L type, alpha 1F subunit	PPS05195A
A02	Ssc.22030	NM_001129946	CCL5	Chemokine (C-C motif) ligand 5	PPS00051A
A03	Ssc.19054	NM_001001620	CCR3	Chemokine (C-C motif) receptor 3	PPS01097A
A04	Ssc.33610	XM_003361791	CCR4	Chemokine (C-C motif) receptor 4	PPS07417A
A05	Ssc.26328	NM_001001618	CCR5	Chemokine (C-C motif) receptor 5	PPS01095A
A06	N/A	XM_013992405	CCR6	Chemokine (C-C motif) receptor 6	PPS17649A
A07	Ssc.32416	NM_001199889	CEBPB	CCAAT/enhancer binding protein (C/EBP), beta	PPS00675A
A08	Ssc.97869	XM_003355051	CHD7	Chromodomain helicase DNA binding protein 7	PPS03931A
A09	Ssc.45624	XM_003135179	CXCR3	C-X-C chemokine receptor type 3-like	PPS14743A
A10	Ssc.15870	NM_213806	FASLG	Fas ligand (TNF superfamily, member 6)	PPS00135A
A11	Ssc.3391	XM_003122519	FOSL1	Fos-related antigen 1-like	PPS15151A
A12	Ssc.42780	NM_001128438	FOXP3	Forkhead box P3	PPS01175A
B01	Ssc.21354	NM_001044567	GATA3	GATA binding protein 3	PPS07936A
B02	Ssc.54237	NM_214293	GATA4	GATA binding protein 4	PPS00862A
B03	Ssc.45715	XM_003134109	HAVCR2	Hepatitis A virus cellular receptor 2-like	PPS13947A
B04	Ssc.383	NM_213792	HOPX	HOP homeobox	PPS00109A
B05	Ssc.100927	NM_001244338	HOXA10	Homeobox protein Hox-A10-like	PPS15756A
B06	N/A	XM_003134850	HOXA11	Homeobox protein Hox-A11-like	PPS13624A
B07	Ssc.25144	XM_005673301	HOXA3	Homeobox A3	PPS06217A
B08	Ssc.15392	NM_001044546	ICOS	Inducible T-cell co-stimulator	PPS01462A
B09	Ssc.14914	NM_001037965	ID2	Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein	PPS01418A
B10	Ssc.4093	NM_213948	IFNG	Interferon-gamma	PPS00334A
B11	Ssc.48309	NM_001243387	IGSF6	Immunoglobulin superfamily, member 6	PPS07833A
B12	N/A	XM_013984460	IKZF2	IKAROS family zinc finger 2 (Helios)	PPS04822A
C01	Ssc.148	NM_214041	IL10	Interleukin 10	PPS00445B
C02	Ssc.71	NM_214013	IL12B	Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40)	PPS00416B
C03	Ssc.15791	NM_214097	IL12RB2	Interleukin 12 receptor, beta 2	PPS00516A
C04	Ssc.15877	NM_213803	IL13	Interleukin 13	PPS00131A
C05	Ssc.17245	NM_214341	IL13RA1	Interleukin 13 receptor, alpha 1	PPS00919A
C06	Ssc.42770	NM_001005729	IL17A	Interleukin 17A	PPS01245A
C07	N/A	XM_001926148	IL17RE	Interleukin 17 receptor E	PPS02996A
C08	Ssc.20	NM_213997	IL18	Interleukin 18 (interferon-gamma-inducing factor)	PPS00399A
C09	Ssc.15792	NM_214098	IL18R1	Interleukin-18 receptor alpha chain	PPS00517A
C10	Ssc.77058	XM_005662356	IL18RAP	Interleukin 18 receptor accessory protein	PPS71725A
C11	Ssc.83020	NM_001243363	IL1R2	Interleukin 1 receptor, type II	PPS07856A
C12	Ssc.69825	XM_013995913	IL1RL1	Interleukin 1 receptor-like 1	PPS01883A
D01	Ssc.16224	NM_213861	IL2	Interleukin 2	PPS00228A
D02	Ssc.26323	NM_214415	IL21	Interleukin 21	PPS01023A
D03	Ssc.14476	NM_213835	IL2RA	Interleukin 2 receptor, alpha	PPS00186A
D04	Ssc.15837	NM_214123	IL4	Interleukin 4	PPS00559A
D05	Ssc.17244	NM_214340	IL4R	Interleukin 4 receptor	PPS00918A

Position	UniGene	GenBank	Symbol	Description	Assay
D06	Ssc.528	NM_214205	IL5	Interleukin 5	PPS00721B
D07	Ssc.62	NM_214399	IL6	Interleukin 6 (interferon, beta 2)	PPS00991A
D08	Ssc.16374	NM_214403	IL6R	Interleukin 6 receptor	PPS00995A
D09	Ssc.51687	NM_001166043	IL9	Interleukin 9	PPS02144A
D10	Ssc.19494	NM_001097413	IRF1	Interferon regulatory factor 1	PPS00050A
D11	Ssc.100473	NM_001253352	IRF4	Interferon regulatory factor 4	PPS71726A
D12	Ssc.98195	NM_001252427	IRF8	Interferon regulatory factor 8	PPS71727A
E01	Ssc.328	NM_214114	JAK1	Janus kinase 1	PPS00537A
E02	N/A	XM_003128056	KIF2C	Kinesin family member 2C	PPS05642A
E03	N/A	XM_013978393	ASB2	Ankyrin repeat and SOCS box protein 2	PPS08331A
E04	Ssc.76359	XM_001928154	LOC100156637	RAR-related orphan receptor A	PPS03785A
E05	Ssc.45703	XM_003130453	LOC100520045	Fas apoptotic inhibitory molecule 3-like	PPS13180A
E06	N/A	XM_003130713	LOC100520325	Zinc finger E-box binding homeobox 1	PPS06306A
E07	N/A	XM_003129671	LRRC32	Leucine rich repeat containing 32	PPS06620A
E08	N/A	XM_013998162	MAF	V-maf avian musculoaponeurotic fibrosarcoma oncogene homolog	PPS71728A
E09	N/A	XM_001928926	MYB	V-myb myeloblastosis viral oncogene homolog (avian)	PPS02401A
E10	Ssc.16122	NM_001113452	NFATC2	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 2	PPS01942A
E11	Ssc.51216	NM_001244522	NFATC2IP	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 2 interacting protein	PPS12178A
E12	Ssc.761	NM_214247	NR4A3	Neuron-derived orphan receptor-1 alfa	PPS00790A
F01	N/A	XM_013992242	PCGF2	Polycomb group ring finger 2	PPS19375A
F02	Ssc.30602	NM_001245979	PKD2	Polycystic kidney disease 2 (autosomal dominant)	PPS01397A
F03	Ssc.14475	NM_214379	PPARG	Peroxisome proliferator-activated receptor gamma	PPS00971A
F04	Ssc.49976	XM_003122669	PTGDR2	Putative G-protein coupled receptor 44-like	PPS09491A
F05	Ssc.102284	XM_005662527	REL	V-rel avian reticuloendotheliosis viral oncogene homolog	PPS07003A
F06	N/A	XM_013992304	RELB	V-rel avian reticuloendotheliosis viral oncogene homolog B	PPS07356A
F07	Ssc.6014	XM_003355171	RORC	RAR-related orphan receptor C	PPS07349A
F08	Ssc.58373	NM_001246252	RUNX1	Runt-related transcription factor 1	PPS05137B
F09	Ssc.26216	NM_001204768	SOC51	Suppressor of cytokine signaling 1	PPS04629A
F10	Ssc.28813	NM_001162890	SOC55	Suppressor of cytokine signaling 5	PPS04594A
F11	Ssc.42622	NM_213769	STAT1	Signal transducer and activator of transcription 1, 91kDa	PPS00079B
F12	Ssc.15914	NM_001197305	STAT4	Signal transducer and activator of transcription 4	PPS00588A
G01	Ssc.10289	NM_001197306	STAT6	Signal transducer and activator of transcription 6, interleukin-4 induced	PPS02759A
G02	Ssc.23504	XM_003131530	TBX21	T-box transcription factor TBX21-like	PPS12679A
G03	Ssc.6354	NM_001244288	TGIF1	TGFB-induced factor homeobox 1	PPS18359A
G04	Ssc.19703	NM_001113039	TLR4	Toll-like receptor 4	PPS01010A
G05	Ssc.22011	NM_213760	TLR6	Toll-like receptor 6	PPS00057A
G06	Ssc.100	NM_214022	TNF	Tumor necrosis factor	PPS00426A
G07	Ssc.79213	NM_001267073	TNFRSF9	Tumor necrosis factor receptor superfamily member 9-like	PPS12905A
G08	Ssc.51820	XM_001925694	TNFSF11	Soluble RANKL	PPS07986A
G09	Ssc.98260	XM_005663081	TOX	Thymocyte selection-associated high mobility group box	PPS08934A
G10	N/A	XM_001925224	TP53INP1	Tumor protein p53-inducible nuclear protein 1-like	PPS09300A
G11	Ssc.437	NM_214143	UTS2	Urotensin 2	PPS00595A
G12	N/A	XM_005663342	ZBTB7B	Zinc finger and BTB domain containing 7B	PPS16572A
H01	Ssc.10316	XM_003124280	ACTB	Actin, beta	PPS71698A
H02	Ssc.73773	NM_213978	B2M	Beta-2-microglobulin	PPS00376A
H03	Ssc.16135	NM_001206359	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase	PPS00192A
H04	Ssc.4158	NM_001032376	HPRT1	Hypoxanthine phosphoribosyltransferase 1	PPS00668B
H05	Ssc.27927	NM_001244068	RPL13A	Ribosomal protein L13a	PPS01574A
H06	N/A	SA_00133	SGDC	Pig Genomic DNA Contamination	PPS71596A
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 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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