RT² Profiler PCR Array (Rotor-Gene® Format)

Human T Helper Cell Differentiation

Cat. no. 330231 PAHS-503ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Human 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*.

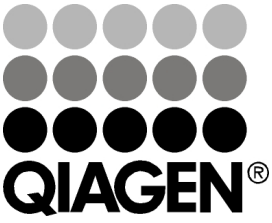
Shipping and storage

RT² Profiler PCR Arrays in 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.



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	Hs.510327	NM_016150	ASB2	Ankyrin repeat and SOCS box containing 2
A02	Hs.632799	NM_005183	CACNA1F	Calcium channel, voltage-dependent, L type, alpha 1F subunit
A03	Hs.514821	NM_002985	CCL5	Chemokine (C-C motif) ligand 5
A04	Hs.251526	NM_006273	CCL7	Chemokine (C-C motif) ligand 7
A05	Hs.506190	NM_001837	CCR3	Chemokine (C-C motif) receptor 3
A06	Hs.184926	NM_005508	CCR4	Chemokine (C-C motif) receptor 4
A07	Hs.450802	NM_000579	CCR5	Chemokine (C-C motif) receptor 5
A08	Hs.46468	NM_004367	CCR6	Chemokine (C-C motif) receptor 6
A09	Hs.517106	NM_005194	CEBPB	CCAAT/enhancer binding protein (C/EBP), beta
A10	Hs.20395	NM_017780	CHD7	Chromodomain helicase DNA binding protein 7
A11	Hs.591663	NM_005442	EOMES	Eomesodermin
A12	Hs.2007	NM_000639	FASLG	Fas ligand (TNF superfamily, member 6)
B01	Hs.283565	NM_005438	FOSL1	FOS-like antigen 1
B02	Hs.247700	NM_014009	FOXP3	Forkhead box P3
B03	Hs.524134	NM_002051	GATA3	GATA binding protein 3
B04	Hs.243987	NM_002052	GATA4	GATA binding protein 4
B05	Hs.73172	NM_005263	GFI1	Growth factor independent 1 transcription repressor
B06	Hs.299567	NM_004778	PTGDR2	Prostaglandin D2 receptor 2
B07	Hs.710500	NM_032782	HAVCR2	Hepatitis A virus cellular receptor 2
B08	Hs.654864	NM_139211	HOPX	HOP homeobox
B09	Hs.110637	NM_018951	HOXA10	Homeobox A10
B10	Hs.659337	NM_030661	HOXA3	Homeobox A3
B11	Hs.56247	NM_012092	ICOS	Inducible T-cell co-stimulator
B12	Hs.180919	NM_002166	ID2	Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein
C01	Hs.856	NM_000619	IFNG	Interferon, gamma
C02	Hs.530902	NM_005849	IGSF6	Immunoglobulin superfamily, member 6
C03	Hs.604950	NM_016260	IKZF2	IKAROS family zinc finger 2 (Helios)
C04	Hs.674	NM_002187	IL12B	Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40)
C05	Hs.479347	NM_001559	IL12RB2	Interleukin 12 receptor, beta 2
C06	Hs.845	NM_002188	IL13	Interleukin 13
C07	Hs.496646	NM_001560	IL13RA1	Interleukin 13 receptor, alpha 1
C08	Hs.41724	NM_002190	IL17A	Interleukin 17A
C09	Hs.390823	NM_153480	IL17RE	Interleukin 17 receptor E
C10	Hs.83077	NM_001562	IL18	Interleukin 18 (interferon-gamma-inducing factor)
C11	Hs.469521	NM_003855	IL18R1	Interleukin 18 receptor 1
C12	Hs.158315	NM_003853	IL18RAP	Interleukin 18 receptor accessory protein
D01	Hs.701982	NM_000877	IL1R1	Interleukin 1 receptor, type I
D02	Hs.25333	NM_004633	IL1R2	Interleukin 1 receptor, type II
D03	Hs.66	NM_016232	IL1RL1	Interleukin 1 receptor-like 1
D04	Hs.89679	NM_000586	IL2	Interleukin 2
D05	Hs.567559	NM_021803	IL21	Interleukin 21
D06	Hs.231367	NM_000417	IL2RA	Interleukin 2 receptor, alpha
D07	Hs.73917	NM_000589	IL4	Interleukin 4
D08	Hs.513457	NM_000418	IL4R	Interleukin 4 receptor
D09	Hs.2247	NM_000879	IL5	Interleukin 5 (colony-stimulating factor, eosinophil)
D10	Hs.960	NM_000590	IL9	Interleukin 9
D11	Hs.436061	NM_002198	IRF1	Interferon regulatory factor 1
D12	Hs.401013	NM_002460	IRF4	Interferon regulatory factor 4
E01	Hs.137427	NM_002163	IRF8	Interferon regulatory factor 8
E02	Hs.207538	NM_002227	JAK1	Janus kinase 1
E03	Hs.69360	NM_006845	KIF2C	Kinesin family member 2C
E04	Hs.151641	NM_005512	LRRC32	Leucine rich repeat containing 32
E05	Hs.134859	NM_005360	MAF	V-maf musculoaponeurotic fibrosarcoma oncogene homolog (avian)
E06	Hs.654446	NM_005375	MYB	V-myb myeloblastosis viral oncogene homolog (avian)
E07	Hs.534074	NM_172390	NFATC1	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 1
E08	Hs.713650	NM_012340	NFATC2	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 2

Position	UniGene	GenBank	Symbol	Description
E09	Hs.524430	NM_002135	NR4A1	Nuclear receptor subfamily 4, group A, member 1
E10	Hs.279522	NM_006981	NR4A3	Nuclear receptor subfamily 4, group A, member 3
E11	Hs.201446	NM_022121	PERP	PERP, TP53 apoptosis effector
E12	Hs.181272	NM_000297	PKD2	Polycystic kidney disease 2 (autosomal dominant)
F01	Hs.654420	NM_002698	POU2F2	POU class 2 homeobox 2
F02	Hs.162646	NM_015869	PPARG	Peroxisome proliferator-activated receptor gamma
F03	Hs.631886	NM_002908	REL	V-rel reticuloendotheliosis viral oncogene homolog (avian)
F04	Hs.654402	NM_006509	RELB	V-rel reticuloendotheliosis viral oncogene homolog B
F05	Hs.560343	NM_134260	RORA	RAR-related orphan receptor A
F06	Hs.256022	NM_005060	RORC	RAR-related orphan receptor C
F07	Hs.149261	NM_001754	RUNX1	Runt-related transcription factor 1
F08	Hs.170019	NM_004350	RUNX3	Runt-related transcription factor 3
F09	Hs.50640	NM_003745	SOCS1	Suppressor of cytokine signaling 1
F10	Hs.468426	NM_144949	SOCS5	Suppressor of cytokine signaling 5
F11	Hs.642990	NM_007315	STAT1	Signal transducer and activator of transcription 1, 91kDa
F12	Hs.80642	NM_003151	STAT4	Signal transducer and activator of transcription 4
G01	Hs.524518	NM_003153	STAT6	Signal transducer and activator of transcription 6, interleukin-4 induced
G02	Hs.272409	NM_013351	TBX21	T-box 21
G03	Hs.373550	NM_003244	TGIF1	TGFB-induced factor homeobox 1
G04	Hs.174312	NM_138554	TLR4	Toll-like receptor 4
G05	Hs.662185	NM_006068	TLR6	Toll-like receptor 6
G06	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G07	Hs.654459	NM_001561	TNFRSF9	Tumor necrosis factor receptor superfamily, member 9
G08	Hs.333791	NM_003701	TNFSF11	Tumor necrosis factor (ligand) superfamily, member 11
G09	Hs.491805	NM_014729	TOX	Thymocyte selection-associated high mobility group box
G10	Hs.700624	NM_033285	TP53INP1	Tumor protein p53 inducible nuclear protein 1
G11	Hs.715862	NM_006786	UTS2	Urotensin 2
G12	Hs.729279	NM_015872	ZBTB7B	Zinc finger and BTB domain containing 7B
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human 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.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² 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.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

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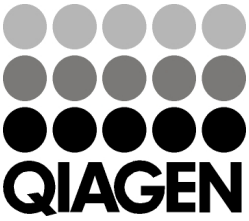

Sample & Assay Technologies