RT² Profiler PCR Array (Rotor-Gene® Format)

Human Terminal Differentiation Markers

Cat. no. 330231 PAHS-048ZR

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 Terminal Differentiation Markers RT² Profiler PCR Array profiles the expression of 84 key genes important for the identification of specific cell types. The complex and time-consuming process of successfully differentiating embryonic stem cells (ESCs) or induced pluripotent stem cells (iPSCs) into a specific cell type requires verification by testing positive cellular markers before proceeding with experiments. However, further examination of other cell type markers serves as an equally important negative control confirming the specificity of the differentiation program. For example, iPSCs differentiated into arterial endothelial cells should express arterial markers but not venous markers. Or, the expression of cardiomyocyte markers confirms successful differentiation into that cell type, and the absence of markers for cells from other major organs (such as lung, pancreas and brain) insures the lack of other non-relevant cell types. This array provides the complete answer for cellular identification after differentiation. It includes one to three specific gene expression markers from 13 major organ or cellular types, with up to seven subgroups of more specific types of cells. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes for cellular identification 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.2159	NM_001135	ACAN	Aggrecan
A02	Hs.80485	NM_004797	ADIPOQ	Adiponectin, C1Q and collagen domain containing
A03	Hs.418167	NM_000477	ALB	Albumin
A04	Hs.76152	NM_198098	AQP1	Aquaporin 1 (Colton blood group)
A05	Hs.130730	NM_000486	AQP2	Aquaporin 2 (collecting duct)
A06	Hs.654541	NM_199173	BGLAP	Bone gamma-carboxyglutamate (gla) protein
A07	Hs.489127	NM_001742	CALCR	CALCITONIN RECEPTOR
A08	Hs.98303	NM_001234	CAV3	Caveolin 3
A09	Hs.450802	NM_000579	CCR5	Chemokine (C-C motif) receptor 5
A10	Hs.3003	NM_000733	CD3E	CD3e molecule, epsilon (CD3-TCR complex)
A11	Hs.631567	NM_001783	CD79A	CD79a molecule, immunoglobulin-associated alpha
A12	Hs.76206	NM_001795	CDH5	Cadherin 5, type 2 (vascular endothelium)
B01	Hs.302002	NM_020985	CHAT	Choline O-acetyltransferase
B02	Hs.520339	NM_000493	COL10A1	Collagen, type X, alpha 1
B03	Hs.408182	NM_001844	COL2A1	Collagen, type II, alpha 1
B04	Hs.1584	NM_000095	COMP	Cartilage oligomeric matrix protein
B05	Hs.2879	NM_001868	CPA1	Carboxypeptidase A1 (pancreatic)
B06	Hs.632466	NM_000396	CTSK	Cathepsin K
B07	Hs.593413	NM_003467	CXCR4	Chemokine (C-X-C motif) receptor 4
B08	Hs.524528	NM_000785	CYP27B1	Cytochrome P450, family 27, subfamily B, polypeptide 1
B09	Hs.511076	NM_019074	DLL4	Delta-like 4 (Drosophila)
B10	Hs.149239	NM_004093	EFNB2	Ephrin-B2
B11	Hs.2375	NM_001974	EMR1	Egf-like module containing, mucin-like, hormone receptor-like 1
B12	Hs.391561	NM_001442	FABP4	Fatty acid binding protein 4, adipocyte
C01	Hs.212293	NM_000151	G6PC	Glucose-6-phosphatase, catalytic subunit
C02	Hs.420036	NM_000817	GAD1	Glutamate decarboxylase 1 (brain, 67kDa)
C03	Hs.513439	NM_000153	GALC	Galactosylceramidase
C04	Hs.516494	NM_002054	GCG	Glucagon
C05	Hs.514227	NM_002055	GFAP	Glial fibrillary acidic protein
C06	Hs.590080	NM_016362	GHRL	Ghrelin/obestatin prepropeptide
C07	Hs.518726	NM_004967	IBSP	Integrin-binding sialoprotein
C08	Hs.654579	NM_000207	INS	Insulin
C09	Hs.505	NM_002202	ISL1	ISL LIM homeobox 1
C10	Hs.172631	NM_000632	ITGAM	Integrin, alpha M (complement component 3 receptor 3 subunit)
C11	Hs.632226	NM_000213	ITGB4	Integrin, beta 4
C12	Hs.479756	NM_002253	KDR	Kinase insert domain receptor (a type III receptor tyrosine kinase)
D01	Hs.80828	NM_006121	KRT1	Keratin 1
D02	Hs.99936	NM_000421	KRT10	Keratin 10
D03	Hs.654380	NM_000526	KRT14	Keratin 14
D04	Hs.654568	NM_002276	KRT19	Keratin 19
D05	Hs.728831	NM_006691	LYVE1	Lymphatic vessel endothelial hyaluronan receptor 1
D06	Hs.670866	NM_201589	MAFA	V-maf musculoaponeurotic fibrosarcoma oncogene homolog A (avian)
D07	Hs.169487	NM_005461	MAFB	V-maf musculoaponeurotic fibrosarcoma oncogene homolog B (avian)
D08	Hs.368281	NM_002374	MAP2	Microtubule-associated protein 2
D09	Hs.551713	NM_002385	MBP	Myelin basic protein
D10	Hs.129227	NM_017584	MIOX	Myo-inositol oxygenase
D11	Hs.689619	NM_005963	MYH1	Myosin, heavy chain 1, skeletal muscle, adult
D12	Hs.460109	NM_022844	MYH11	Myosin, heavy chain 11, smooth muscle
E01	Hs.278432	NM_002471	MYH6	Myosin, heavy chain 6, cardiac muscle, alpha
E02	Hs.929	NM_000257	MYH7	Myosin, heavy chain 7, cardiac muscle, beta
E03	Hs.181768	NM_002478	MYOD1	Myogenic differentiation 1
E04	Hs.198760	NM_021076	NEFH	Neurofilament, heavy polypeptide
E05	Hs.412710	NM_014625	NPHS2	Nephrosis 2, idiopathic, steroid-resistant (podocin)
E06	Hs.75640	NM_006172	NPPA	Natriuretic peptide A
E07	Hs.701977	NM_021005	NR2F2	Nuclear receptor subfamily 2, group F, member 2
E08	Hs.131704	NM_003873	NRP1	Neuropilin 1
E09	Hs.471200	NM_003872	NRP2	Neuropilin 2

Position	UniGene	GenBank	Symbol	Description
E10	Hs.623810	NM_000283	PDE6B	Phosphodiesterase 6B, cGMP-specific, rod, beta
E11	Hs.514412	NM_000442	PECAM1	Platelet/endothelial cell adhesion molecule
E12	Hs.95972	NM_006928	PMEL	Premelanosome protein
F01	Hs.2229	NM_000307	POU3F4	POU class 3 homeobox 4
F02	Hs.266	NM_004575	POU4F2	POU class 4 homeobox 2
F03	Hs.162646	NM_015869	PPARG	Peroxisome proliferator-activated receptor gamma
F04	Hs.558368	NM_002722	PPY	Pancreatic polypeptide
F05	Hs.585369	NM_002763	PROX1	Prospero homeobox 1
F06	Hs.169002	NM_138296	PTCRA	Pre T-cell antigen receptor alpha
F07	Hs.80539	NM_002903	RCVRN	Recoverin
F08	Hs.1933	NM_000326	RLBP1	Retinaldehyde binding protein 1
F09	Hs.512690	NM_000542	SFTPB	Surfactant protein B
F10	Hs.1074	NM_003018	SFTPC	Surfactant protein C
F11	Hs.253495	NM_003019	SFTPD	Surfactant protein D
F12	Hs.242821	NM_020346	SLC17A6	Solute carrier family 17 (sodium-dependent inorganic phosphate cotransporter), member 6
G01	Hs.375616	NM_020309	SLC17A7	Solute carrier family 17 (sodium-dependent inorganic phosphate cotransporter), member 7
G02	Hs.167584	NM_000340	SLC2A2	Solute carrier family 2 (facilitated glucose transporter), member 2
G03	Hs.179080	NM_080552	SLC32A1	Solute carrier family 32 (GABA vesicular transporter), member 1
G04	Hs.149098	NM_006932	SMTN	Smoothelin
G05	Hs.12409	NM_001048	SST	Somatostatin
G06	Hs.503998	NM_003186	TAGLN	Transgelin
G07	Hs.161640	NM_000353	TAT	Tyrosine aminotransferase
G08	Hs.435609	NM_000360	TH	Tyrosine hydroxylase
G09	Hs.511743	NM_006086	TUBB3	Tubulin, beta 3
G10	Hs.503555	NM_000372	TYR	Tyrosinase (oculocutaneous albinism IA)
G11	Hs.270279	NM_000550	TYRP1	Tyrosinase-related protein 1
G12	Hs.654425	NM_003361	UMOD	Uromodulin
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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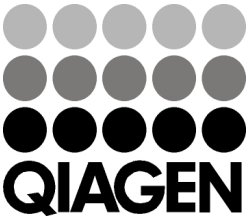

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