RT² Profiler PCR Array (Rotor-Gene® Format)

Human Cell Lineage Identification

Cat. no. 330231 PAHS-508ZR

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 Cell Lineage Identification RT² Profiler PCR Array profiles the expression of 84 key genes for cellular differentiation. During embryonic development, pluripotent stem cells differentiate into three germ layers: ectoderm, mesoderm and endoderm. These germ layers eventually differentiate into multipotent stem cells (progenitors), which progress into terminally differentiated cells. These developmental processes require tightly regulated and carefully timed gene expression changes. Analysis of these genes can suggest the identity of an intermediately or terminally differentiated cell, and/or the mechanism of a studied differentiation process. This array contains gene markers for specific cell types throughout cellular lineage progression, including pluripotent stem cells, progenitor cells from each of the three germ layers, and terminally differentiated cells. Using real-time PCR, your research study can easily and reliably analyze the expression of a focused panel of cellular lineage progression markers 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.418167	NM_000477	ALB	Albumin
A02	Hs.445358	NM_000042	APOH	Apolipoprotein H (beta-2-glycoprotein I)
A03	Hs.76152	NM_198098	AQP1	Aquaporin 1 (Colton blood group)
A04	Hs.68879	NM_130851	BMP4	Bone morphogenetic protein 4
A05	Hs.450802	NM_000579	CCR5	Chemokine (C-C motif) receptor 5
A06	Hs.374990	NM_001773	CD34	CD34 molecule
A07	Hs.3003	NM_000733	CD3E	CD3e molecule, epsilon (CD3-TCR complex)
A08	Hs.631567	NM_001783	CD79A	CD79a molecule, immunoglobulin-associated alpha
A09	Hs.302002	NM_020985	CHAT	Choline O-acetyltransferase
A10	Hs.520339	NM_000493	COL10A1	Collagen, type X, alpha 1
A11	Hs.1584	NM_000095	COMP	Cartilage oligomeric matrix protein
A12	Hs.2879	NM_001868	CPA1	Carboxypeptidase A1 (pancreatic)
B01	Hs.632466	NM_000396	CTSK	Cathepsin K
B02	Hs.728830	NM_001920	DCN	Decorin
B03	Hs.34780	NM_178153	DCX	Doublecortin
B04	Hs.643024	NM_006892	DNMT3B	DNA (cytosine-5-)-methyltransferase 3 beta
B05	Hs.368912	NM_001935	DPP4	Dipeptidyl-peptidase 4
B06	Hs.517145	NM_001428	ENO1	Enolase 1, (alpha)
B07	Hs.26770	NM_001446	FABP7	Fatty acid binding protein 7, brain
B08	Hs.37055	NM_004464	FGF5	Fibroblast growth factor 5
B09	Hs.163484	NM_004496	FOXA1	Forkhead box A1
B10	Hs.546573	NM_012183	FOXD3	Forkhead box D3
B11	Hs.695962	NM_005249	FOXG1	Forkhead box G1
B12	Hs.212293	NM_000151	G6PC	Glucose-6-phosphatase, catalytic subunit
C01	Hs.420036	NM_000817	GAD1	Glutamate decarboxylase 1 (brain, 67kDa)
C02	Hs.231829	NM_000818	GAD2	Glutamate decarboxylase 2 (pancreatic islets and brain, 65kDa)
C03	Hs.513439	NM_000153	GALC	Galactosylceramidase
C04	Hs.765	NM_002049	GATA1	GATA binding protein 1 (globin transcription factor 1)
C05	Hs.367725	NM_032638	GATA2	GATA binding protein 2
C06	Hs.514746	NM_005257	GATA6	GATA binding protein 6
C07	Hs.184945	NM_001485	GBX2	Gastrulation brain homeobox 2
C08	Hs.86232	NM_020634	GDF3	Growth differentiation factor 3
C09	Hs.514227	NM_002055	GFAP	Glial fibrillary acidic protein
C10	Hs.152531	NM_004821	HAND1	Heart and neural crest derivatives expressed 1
C11	Hs.388245	NM_021973	HAND2	Heart and neural crest derivatives expressed 2
C12	Hs.57971	NM_001010926	HES5	Hairy and enhancer of split 5 (Drosophila)
D01	Hs.116462	NM_178849	HNF4A	Hepatocyte nuclear factor 4, alpha
D02	Hs.518726	NM_004967	IBSP	Integrin-binding sialoprotein
D03	Hs.523414	NM_000612	IGF2	Insulin-like growth factor 2 (somatomedin A)
D04	Hs.654579	NM_000207	INS	Insulin
D05	Hs.632226	NM_000213	ITGB4	Integrin, beta 4
D06	Hs.99936	NM_000421	KRT10	Keratin 10
D07	Hs.654380	NM_000526	KRT14	Keratin 14
D08	Hs.654568	NM_002276	KRT19	Keratin 19
D09	Hs.656214	NM_020997	LEFTY1	Left-right determination factor 1
D10	Hs.713539	NM_006301	MAP3K12	Mitogen-activated protein kinase kinase kinase 12
D11	Hs.129227	NM_017584	MIOX	Myo-inositol oxygenase
D12	Hs.710576	NM_031944	MIXL1	Mix paired-like homeobox
E01	Hs.408488	NM_005823	MSLN	Mesothelin
E02	Hs.689619	NM_005963	MYH1	Myosin, heavy chain 1, skeletal muscle, adult
E03	Hs.460109	NM_022844	MYH11	Myosin, heavy chain 11, smooth muscle
E04	Hs.929	NM_000257	MYH7	Myosin, heavy chain 7, cardiac muscle, beta
E05	Hs.517939	NM_000258	MYL3	Myosin, light chain 3, alkali; ventricular, skeletal, slow
E06	Hs.661360	NM_024865	NANOG	Nanog homeobox
E07	Hs.574626	NM_002500	NEUROD1	Neurogenic differentiation 1
E08	Hs.567563	NM_024019	NEUROG2	Neurogenin 2
E09	Hs.516922	NM_002509	NKX2-2	NK2 homeobox 2

Position	UniGene	GenBank	Symbol	Description
E10	Hs.75640	NM_006172	NPPA	Natriuretic peptide A
E11	Hs.176977	NM_005806	OLIG2	Oligodendrocyte lineage transcription factor 2
E12	Hs.288655	NM_021728	OTX2	Orthodenticle homeobox 2
F01	Hs.74615	NM_006206	PDGFRA	Platelet-derived growth factor receptor, alpha polypeptide
F02	Hs.690098	NM_005397	PODXL	Podocalyxin-like
F03	Hs.266	NM_004575	POU4F2	POU class 4 homeobox 2
F04	Hs.249184	NM_002701	POU5F1	POU class 5 homeobox 1
F05	Hs.614734	NM_006017	PROM1	Prominin 1
F06	Hs.169002	NM_138296	PTCRA	Pre T-cell antigen receptor alpha
F07	Hs.80539	NM_002903	RCVRN	Recoverin
F08	Hs.149261	NM_001754	RUNX1	Runt-related transcription factor 1
F09	Hs.109514	NM_001035	RYR2	Ryanodine receptor 2 (cardiac)
F10	Hs.512690	NM_000542	SFTPB	Surfactant protein B
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.98367	NM_022454	SOX17	SRY (sex determining region Y)-box 17
G06	Hs.518438	NM_003106	SOX2	SRY (sex determining region Y)-box 2
G07	Hs.709543	NM_031439	SOX7	SRY (sex determining region Y)-box 7
G08	Hs.389457	NM_003181	T	T, brachyury homolog (mouse)
G09	Hs.161640	NM_000353	TAT	Tyrosine aminotransferase
G10	Hs.503555	NM_000372	TYR	Tyrosinase (oculocutaneous albinism IA)
G11	Hs.335787	NM_174900	ZFP42	Zinc finger protein 42 homolog (mouse)
G12	Hs.598590	NM_003412	ZIC1	Zic family member 1
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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