RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Terminal Differentiation Markers

Cat. no. 330231 PARN-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 Rat 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	Rn.54503	NM_022190	Acan	Aggrecan
A02	Rn.24299	NM_144744	Adipoq	Adiponectin, C1Q and collagen domain containing
A03	Rn.202968	NM_134326	Alb	Albumin
A04	Rn.1618	NM_012778	Aqp1	Aquaporin 1
A05	Rn.90076	NM_012909	Aqp2	Aquaporin 2 (collecting duct)
A06	Rn.9722	NM_013414	Bglap	Bone gamma-carboxyglutamate (gla) protein
A07	Rn.10062	NM_053816	Calcr	Calcitonin receptor
A08	Rn.98191	NM_019155	Cav3	Caveolin 3
A09	Rn.10736	NM_053960	Ccr5	Chemokine (C-C motif) receptor 5
A10	Rn.96221	NM_001108140	Cd3e	CD3 molecule, epsilon
A11	Rn.178258	XM_001060872	Cd79a	Cd79a molecule, immunoglobulin-associated alpha
A12	Rn.164510	NM_001107407	Cdh5	Cadherin 5
B01	Rn.104846	XM_224626	Chat	Choline acetyltransferase
B02	Rn.217522	XM_001053056	Col10a1	Collagen, type X, alpha 1
B03	Rn.10124	NM_012929	Col2a1	Collagen, type II, alpha 1
B04	Rn.10343	NM_012834	Comp	Cartilage oligomeric matrix protein
B05	Rn.9576	NM_016998	Cpa1	Carboxypeptidase A1
B06	Rn.5598	NM_031560	Ctsk	Cathepsin K
B07	Rn.44431	NM_022205	Cxcr4	Chemokine (C-X-C motif) receptor 4
B08	Rn.10847	NM_053763	Cyp27b1	Cytochrome P450, family 27, subfamily b, polypeptide 1
B09	Rn.147393	NM_001107760	Dll4	Delta-like 4 (Drosophila)
B10	Rn.219981	NM_001107328	Efnb2	Ephrin B2
B11	Rn.205884	NM_001007557	Emr1	EGF-like module containing, mucin-like, hormone receptor-like 1
B12	Rn.4258	NM_053365	Fabp4	Fatty acid binding protein 4, adipocyte
C01	Rn.10992	NM_013098	G6pc	Glucose-6-phosphatase, catalytic subunit
C02	Rn.91245	NM_017007	Gad1	Glutamate decarboxylase 1
C03	Rn.211758	NM_001005888	Galc	Galactosylceramidase
C04	Rn.54383	NM_012707	Gcg	Glucagon
C05	Rn.91512	NM_017009	Gfap	Glial fibrillary acidic protein
C06	Rn.42103	NM_021669	Ghrl	Ghrelin/obestatin prepropeptide
C07	Rn.11394	NM_012586	Iapp	Islet amyloid polypeptide
C08	Rn.9721	NM_012587	Ibsp	Integrin-binding sialoprotein
C09	Rn.989	NM_019130	Ins2	Insulin 2
C10	Rn.202645	NM_017339	Isl1	ISL LIM homeobox 1
C11	Rn.54465	NM_012711	Itgam	Integrin, alpha M
C12	Rn.198908	NM_013180	Itgb4	Integrin, beta 4
D01	Rn.88869	NM_013062	Kdr	Kinase insert domain receptor
D02	Rn.31789	NM_001008802	Krt1	Keratin 1
D03	Rn.125065	NM_001008804	Krt10	Keratin 10
D04	Rn.153972	NM_001008751	Krt14	Keratin 14
D05	Rn.9359	NM_199498	Krt19	Keratin 19
D06	Rn.22111	NM_001106286	Lyve1	Lymphatic vessel endothelial hyaluronan receptor 1
D07	Rn.10725	NM_019316	Mafb	V-maf musculoaponeurotic fibrosarcoma oncogene homolog B (avian)
D08	Rn.10484	NM_013066	Map2	Microtubule-associated protein 2
D09	Rn.63285	NM_017026	Mbp	Myelin basic protein
D10	Rn.19959	NM_145771	Miox	Myo-inositol oxygenase
D11	Rn.9692	NM_001135158	Myh1	Myosin, heavy polypeptide 1, skeletal muscle, adult
D12	Rn.94969	XM_573030	Myh11	Myosin, heavy chain 11, smooth muscle
E01	Rn.54399	NM_017239	Myh6	Myosin, heavy chain 6, cardiac muscle, alpha
E02	Rn.202949	NM_017240	Myh7	Myosin, heavy chain 7, cardiac muscle, beta
E03	Rn.9493	NM_176079	Myod1	Myogenic differentiation 1
E04	Rn.108194	NM_012607	Nefh	Neurofilament, heavy polypeptide
E05	Rn.86433	NM_130828	Nphs2	Nephrosis 2, idiopathic, steroid-resistant
E06	Rn.2004	NM_012612	Nppa	Natriuretic peptide precursor A
E07	Rn.17815	NM_080778	Nr2f2	Nuclear receptor subfamily 2, group F, member 2
E08	Rn.10815	NM_145098	Nrp1	Neuropilin 1
E09	Rn.10816	NM_030869	Nrp2	Neuropilin 2

Position	UniGene	GenBank	Symbol	Description
E10	Rn.19724	NM_001106024	Pde6b	Phosphodiesterase 6B, cGMP-specific, rod, beta
E11	Rn.1878	NM_031591	Pecam1	Platelet/endothelial cell adhesion molecule 1
E12	Rn.162910	NM_001108729	Pmel	Premelanosome protein
F01	Rn.33030	NM_017252	Pou3f4	POU class 3 homeobox 4
F02	Rn.92413	NM_134355	Pou4f2	POU class 4 homeobox 2
F03	Rn.23443	NM_013124	Pparg	Peroxisome proliferator-activated receptor gamma
F04	Rn.9755	NM_012626	Ppy	Pancreatic polypeptide
F05	Rn.26557	NM_001107201	Prox1	Prospero homeobox 1
F06	Rn.92370	XM_001065627	Ptcra	Pre T-cell antigen receptor alpha
F07	Rn.38641	NM_080901	Rcvrn	Recoverin
F08	Rn.41007	NM_001106274	Rlbp1	Retinaldehyde binding protein 1
F09	Rn.1952	NM_138842	Sftpb	Surfactant protein B
F10	Rn.3926	NM_017342	Sftpc	Surfactant protein C
F11	Rn.11348	NM_012878	Sftpd	Surfactant protein D
F12	Rn.19372	NM_053427	Slc17a6	Solute carrier family 17 (sodium-dependent inorganic phosphate cotransporter), member 6
G01	Rn.10267	NM_053859	Slc17a7	Solute carrier family 17 (sodium-dependent inorganic phosphate cotransporter), member 7
G02	Rn.89295	NM_012879	Slc2a2	Solute carrier family 2 (facilitated glucose transporter), member 2
G03	Rn.10846	NM_031782	Slc32a1	Solute carrier family 32 (GABA vesicular transporter), member 1
G04	Rn.40766	NM_001013049	Smtn	Smoothelin
G05	Rn.34418	NM_012659	Sst	Somatostatin
G06	Rn.34397	NM_031549	Tagln	Transgelin
G07	Rn.9947	NM_012668	Tat	Tyrosine aminotransferase
G08	Rn.11082	NM_012740	Th	Tyrosine hydroxylase
G09	Rn.43958	NM_139254	Tubb3	Tubulin, beta 3
G10	Rn.38928	NM_001107535	Tyr	Tyrosinase
G11	Rn.40774	NM_001106664	Tyrp1	Tyrosinase-related protein 1
G12	Rn.31982	NM_017082	Umod	Uromodulin
H01	Rn.94978	NM_031144	Actb	Actin, beta
H02	Rn.1868	NM_012512	B2m	Beta-2 microglobulin
H03	Rn.47	NM_012583	Hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H06	N/A	U26919	RGDC	Rat 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

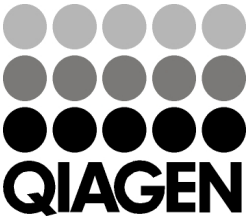
* Larger kit sizes available; please inquire.

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.

www.qiagen.com

Australia ▪ 1-800-243-800
Austria ▪ 0800/281010
Belgium ▪ 0800-79612
Brazil ▪ 0800-557779
Canada ▪ 800-572-9613
China ▪ 8621-3865-3865
Denmark ▪ 80-885945
Finland ▪ 0800-914416
France ▪ 01-60-920-930
Germany ▪ 02103-29-12000
Hong Kong ▪ 800 933 965
Ireland ▪ 1800 555 049
Italy ▪ 800-787980
Japan ▪ 03-6890-7300
Korea (South) ▪ 080-000-7145
Luxembourg ▪ 8002 2076
Mexico ▪ 01-800-7742-436
The Netherlands ▪ 0800 0229592
Norway ▪ 800-18859
Singapore ▪ 1800-742-4368
Spain ▪ 91-630-7050
Sweden ▪ 020-790282
Switzerland ▪ 055-254-22-11
UK ▪ 01293-422-911
USA ▪ 800-426-8157



Sample & Assay Technologies