RT² Profiler PCR Array (Rotor-Gene® Format)

Human Stem Cell Transcription Factors

Cat. no. 330231 PAHS-501ZR

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 Stem Cell Transcription Factors RT² Profiler PCR Array profiles the expression of 84 key genes associated with stem cell differentiation and development. During development, a few key transcription factors (NANOG, POU5F1, and SOX2) drive embryonic stem cell maintenance. These genes activate or repress other key transcription factors represented by this array that are necessary for development and differentiation, forming a transcriptional regulatory network. For example, embryonic stem cell maintenance requires POU5F1 (OCT4), whereas trophectoderm development requires CDX2. These two genes repress each other, forming a regulatory network that either delays development or allows it to proceed as signaled. Understanding these regulatory loops is essential to decipher developmental transcriptional networks and ultimately elucidate differentiation mechanisms. This array includes key transcription factors necessary for stem cell maintenance, as well as transcription factors and cofactors involved in and regulated during developmental processes. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of transcription factors involved in stem cell differentiation and development with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

Shipping and storage

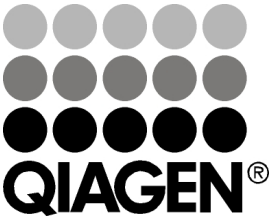
RT² Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

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.174249	NM_001265	CDX2	Caudal type homeobox 2
A02	Hs.129452	NM_004392	DACH1	Dachshund homolog 1 (Drosophila)
A03	Hs.407015	NM_178120	DLX1	Distal-less homeobox 1
A04	Hs.419	NM_004405	DLX2	Distal-less homeobox 2
A05	Hs.643024	NM_006892	DNMT3B	DNA (cytosine-5-)-methyltransferase 3 beta
A06	Hs.534313	NM_004430	EGR3	Early growth response 3
A07	Hs.208124	NM_000125	ESR1	Estrogen receptor 1
A08	Hs.444082	NM_004456	EZH2	Enhancer of zeste homolog 2 (Drosophila)
A09	Hs.163484	NM_004496	FOXA1	Forkhead box A1
A10	Hs.155651	NM_021784	FOXA2	Forkhead box A2
A11	Hs.431498	NM_032682	FOXP1	Forkhead box P1
A12	Hs.656280	NM_014491	FOXP2	Forkhead box P2
B01	Hs.247700	NM_014009	FOXP3	Forkhead box P3
B02	Hs.765	NM_002049	GATA1	GATA binding protein 1 (globin transcription factor 1)
B03	Hs.514746	NM_005257	GATA6	GATA binding protein 6
B04	Hs.111867	NM_005270	GLI2	GLI family zinc finger 2
B05	Hs.152531	NM_004821	HAND1	Heart and neural crest derivatives expressed 1
B06	Hs.110637	NM_018951	HOXA10	Homeobox A10
B07	Hs.249171	NM_005523	HOXA11	Homeobox A11
B08	Hs.445239	NM_006735	HOXA2	Homeobox A2
B09	Hs.659337	NM_030661	HOXA3	Homeobox A3
B10	Hs.446318	NM_006896	HOXA7	Homeobox A7
B11	Hs.659350	NM_152739	HOXA9	Homeobox A9
B12	Hs.99992	NM_002144	HOXB1	Homeobox B1
C01	Hs.66731	NM_006361	HOXB13	Homeobox B13
C02	Hs.654560	NM_002146	HOXB3	Homeobox B3
C03	Hs.654456	NM_002147	HOXB5	Homeobox B5
C04	Hs.514292	NM_024016	HOXB8	Homeobox B8
C05	Hs.44276	NM_017409	HOXC10	Homeobox C10
C06	Hs.381267	NM_173860	HOXC12	Homeobox C12
C07	Hs.549040	NM_153633	HOXC4	Homeobox C4
C08	Hs.549040	NM_018953	HOXC5	Homeobox C5
C09	Hs.549040	NM_004503	HOXC6	Homeobox C6
C10	Hs.549040	NM_006897	HOXC9	Homeobox C9
C11	Hs.83465	NM_024501	HOXD1	Homeobox D1
C12	Hs.123070	NM_002148	HOXD10	Homeobox D10
D01	Hs.591609	NM_014621	HOXD4	Homeobox D4
D02	Hs.73739	NM_000872	HTR7	5-hydroxytryptamine (serotonin) receptor 7 (adenylate cyclase-coupled)
D03	Hs.196927	NM_016358	IRX4	Iroquois homeobox 4
D04	Hs.505	NM_002202	ISL1	ISL LIM homeobox 1
D05	Hs.714791	NM_002228	JUN	Jun proto-oncogene
D06	Hs.715677	NM_016270	KLF2	Kruppel-like factor 2 (lung)
D07	Hs.376206	NM_004235	KLF4	Kruppel-like factor 4 (gut)
D08	Hs.23616	NM_001004317	LIN28B	Lin-28 homolog B (C. elegans)
D09	Hs.129133	NM_002316	LMX1B	LIM homeobox transcription factor 1, beta
D10	Hs.89404	NM_002449	MSX2	Msh homeobox 2
D11	Hs.202453	NM_002467	MYC	V-myc myelocytomatosis viral oncogene homolog (avian)
D12	Hs.661360	NM_024865	NANOG	Nanog homeobox
E01	Hs.574626	NM_002500	NEUROD1	Neurogenic differentiation 1
E02	Hs.534074	NM_172390	NFATC1	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 1
E03	Hs.516922	NM_002509	NKX2-2	NK2 homeobox 2
E04	Hs.487360	NM_024408	NOTCH2	Notch 2
E05	Hs.701977	NM_021005	NR2F2	Nuclear receptor subfamily 2, group F, member 2
E06	Hs.176977	NM_005806	OLIG2	Oligodendrocyte lineage transcription factor 2
E07	Hs.349082	NM_006192	PAX1	Paired box 1
E08	Hs.654464	NM_016734	PAX5	Paired box 5
E09	Hs.270303	NM_000280	PAX6	Paired box 6

Position	UniGene	GenBank	Symbol	Description
E10	Hs.132576	NM_006194	PAX9	Paired box 9
E11	Hs.728886	NM_182649	PCNA	Proliferating cell nuclear antigen
E12	Hs.643588	NM_000325	PITX2	Paired-like homeodomain 2
F01	Hs.137568	NM_005029	PITX3	Paired-like homeodomain 3
F02	Hs.654522	NM_006237	POU4F1	POU class 4 homeobox 1
F03	Hs.266	NM_004575	POU4F2	POU class 4 homeobox 2
F04	Hs.249184	NM_002701	POU5F1	POU class 5 homeobox 1
F05	Hs.162646	NM_015869	PPARG	Peroxisome proliferator-activated receptor gamma
F06	Hs.408528	NM_000321	RB1	Retinoblastoma 1
F07	Hs.149261	NM_001754	RUNX1	Runt-related transcription factor 1
F08	Hs.101937	NM_016932	SIX2	SIX homeobox 2
F09	Hs.12253	NM_005901	SMAD2	SMAD family member 2
F10	Hs.518438	NM_003106	SOX2	SRY (sex determining region Y)-box 2
F11	Hs.368226	NM_033326	SOX6	SRY (sex determining region Y)-box 6
F12	Hs.647409	NM_000346	SOX9	SRY (sex determining region Y)-box 9
G01	Hs.620754	NM_138473	SP1	Sp1 transcription factor
G02	Hs.642990	NM_007315	STAT1	Signal transducer and activator of transcription 1, 91kDa
G03	Hs.463059	NM_003150	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)
G04	Hs.381715	NM_181486	TBX5	T-box 5
G05	Hs.385870	NM_003212	TDGF1	Teratocarcinoma-derived growth factor 1
G06	Hs.492203	NM_198253	TERT	Telomerase reverse transcriptase
G07	Hs.249125	NM_021025	TLX3	T-cell leukemia homeobox 3
G08	Hs.524368	NM_000376	VDR	Vitamin D (1,25- dihydroxyvitamin D3) receptor
G09	Hs.632050	NM_000553	WRN	Werner syndrome, RecQ helicase-like
G10	Hs.591980	NM_000378	WT1	Wilms tumor 1
G11	Hs.431009	NM_012082	ZFPM2	Zinc finger protein, multitype 2
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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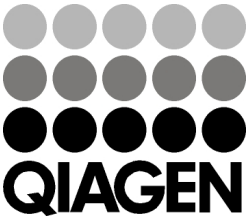

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