RT² Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

Human Epithelial to Mesenchymal Transition

Cat. no. 330231 PAHS-090ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format A	Applied Biosystems® models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad® models iCycler®, iQ™5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf® Mastercycler® ep realplex models 2, 2s, 4, 4s; Stratagene® models Mx3005P®, Mx3000P®; Takara TP-800
RT² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT² Profiler PCR Array, Format H	Fluidigm® BioMark™

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Description

The Human Epithelial to Mesenchymal Transition (EMT) RT² Profiler PCR Array profiles the expression of 84 key genes that either change their expression during this process or regulate those gene expression changes. EMT and the reciprocal mesenchymal to epithelial transition (MET) are key processes involved in both tumor metastasis and stem cell differentiation and development. During EMT, epithelial cells lose their apical and basolateral polarity, break their intercellular tight junctions, and degrade basement membrane extracellular matrix components to become migratory mesenchymal cells. As such, the array includes cell surface receptor, extracellular matrix, and cytoskeletal genes mediating cell adhesion, migration, motility, and morphogenesis; genes controlling cell differentiation, development, growth, and proliferation; as well as signal transduction and transcription factor genes that cause EMT and all of its associated processes. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in tumor metastasis or 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 formats A, C, D, E, F, and G are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products. RT² Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

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 (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT² Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	AHNAK	AKT1	BMP1	BMP2	BMP7	CALD1	CAMK2N1	CAV2	CDH1	CDH2	COL1A2	COL3A1
B	COL5A2	CTNNB1	DSC2	DSP	EGFR	ERBB3	ESR1	F11R	FGFBP1	FN1	FOXC2	FZD7
C	GNG11	GSC	GSK3B	IGFBP4	IL1RN	ILK	ITGA5	ITGAV	ITGB1	JAG1	KRT14	KRT19
D	KRT7	MAP1B	MMP2	MMP3	MMP9	MSN	MST1R	NODAL	NOTCH1	NUDT13	OCLN	PDGFRB
E	PLEK2	PPPDE2	PTK2	PTP4A1	RAC1	RGS2	SERPINE1	SIP1	SMAD2	SNAI1	SNAI2	SNAI3
F	SOX10	SPARC	SPP1	STAT3	STEAP1	TCF3	TCF4	TFPI2	TGFB1	TGFB2	TGFB3	TIMP1
G	TMEFF1	TMEM132A	TSPAN13	TWIST1	VCAN	VIM	VPS13A	WNT11	WNT5A	WNT5B	ZEB1	ZEB2
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.502756	NM_024060	AHNAK	AHNAK nucleoprotein
A02	Hs.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A03	Hs.1274	NM_006129	BMP1	Bone morphogenetic protein 1
A04	Hs.73853	NM_001200	BMP2	Bone morphogenetic protein 2
A05	Hs.473163	NM_001719	BMP7	Bone morphogenetic protein 7
A06	Hs.490203	NM_004342	CALD1	Caldesmon 1
A07	Hs.197922	NM_018584	CAMK2N1	Calcium/calmodulin-dependent protein kinase II inhibitor 1
A08	Hs.212332	NM_001233	CAV2	Caveolin 2
A09	Hs.461086	NM_004360	CDH1	Cadherin 1, type 1, E-cadherin (epithelial)
A10	Hs.464829	NM_001792	CDH2	Cadherin 2, type 1, N-cadherin (neuronal)
A11	Hs.489142	NM_000089	COL1A2	Collagen, type I, alpha 2
A12	Hs.443625	NM_000090	COL3A1	Collagen, type III, alpha 1
B01	Hs.445827	NM_000393	COL5A2	Collagen, type V, alpha 2
B02	Hs.476018	NM_001904	CTNNB1	Catenin (cadherin-associated protein), beta 1, 88kDa
B03	Hs.95612	NM_004949	DSC2	Desmocollin 2
B04	Hs.519873	NM_004415	DSP	Desmoplakin
B05	Hs.488293	NM_005228	EGFR	Epidermal growth factor receptor
B06	Hs.118681	NM_001982	ERBB3	V-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian)
B07	Hs.208124	NM_000125	ESR1	Estrogen receptor 1
B08	Hs.517293	NM_016946	F11R	F11 receptor
B09	Hs.1690	NM_005130	FGFBP1	Fibroblast growth factor binding protein 1
B10	Hs.203717	NM_002026	FN1	Fibronectin 1
B11	Hs.436448	NM_005251	FOXC2	Forkhead box C2 (MFH-1, mesenchyme forkhead 1)
B12	Hs.173859	NM_003507	FZD7	Frizzled family receptor 7
C01	Hs.83381	NM_004126	GNG11	Guanine nucleotide binding protein (G protein), gamma 11
C02	Hs.440438	NM_173849	GSC	Goosecoid homeobox
C03	Hs.445733	NM_002093	GSK3B	Glycogen synthase kinase 3 beta
C04	Hs.462998	NM_001552	IGFBP4	Insulin-like growth factor binding protein 4
C05	Hs.81134	NM_000577	IL1RN	Interleukin 1 receptor antagonist
C06	Hs.5158	NM_004517	ILK	Integrin-linked kinase
C07	Hs.505654	NM_002205	ITGA5	Integrin, alpha 5 (fibronectin receptor, alpha polypeptide)
C08	Hs.436873	NM_002210	ITGAV	Integrin, alpha V (vitronectin receptor, alpha polypeptide, antigen CD51)
C09	Hs.643813	NM_002211	ITGB1	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)
C10	Hs.728907	NM_000214	JAG1	Jagged 1
C11	Hs.654380	NM_000526	KRT14	Keratin 14
C12	Hs.654568	NM_002276	KRT19	Keratin 19
D01	Hs.411501	NM_005556	KRT7	Keratin 7
D02	Hs.335079	NM_005909	MAP1B	Microtubule-associated protein 1B
D03	Hs.513617	NM_004530	MMP2	Matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)
D04	Hs.375129	NM_002422	MMP3	Matrix metallopeptidase 3 (stromelysin 1, progelatinase)
D05	Hs.297413	NM_004994	MMP9	Matrix metallopeptidase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)
D06	Hs.87752	NM_002444	MSN	Moesin

Position	UniGene	GenBank	Symbol	Description
D07	Hs.517973	NM_002447	MST1R	Macrophage stimulating 1 receptor (c-met-related tyrosine kinase)
D08	Hs.370414	NM_018055	NODAL	Nodal homolog (mouse)
D09	Hs.495473	NM_017617	NOTCH1	Notch 1
D10	Hs.533657	NM_015901	NUDT13	Nudix (nucleoside diphosphate linked moiety X)-type motif 13
D11	Hs.592605	NM_002538	OCLN	Occludin
D12	Hs.509067	NM_002609	PDGFRB	Platelet-derived growth factor receptor, beta polypeptide
E01	Hs.170473	NM_016445	PLEK2	Pleckstrin 2
E02	Hs.570455	NM_015704	PPPDE2	PPPDE peptidase domain containing 2
E03	Hs.395482	NM_005607	PTK2	PTK2 protein tyrosine kinase 2
E04	Hs.227777	NM_003463	PTP4A1	Protein tyrosine phosphatase type IVA, member 1
E05	Hs.413812	NM_006908	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
E06	Hs.78944	NM_002923	RGS2	Regulator of G-protein signaling 2, 24kDa
E07	Hs.414795	NM_000602	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
E08	Hs.708127	NM_003616	SIP1	Survival of motor neuron protein interacting protein 1
E09	Hs.12253	NM_005901	SMAD2	SMAD family member 2
E10	Hs.48029	NM_005985	SNAI1	Snail homolog 1 (Drosophila)
E11	Hs.360174	NM_003068	SNAI2	Snail homolog 2 (Drosophila)
E12	Hs.253790	NM_178310	SNAI3	Snail homolog 3 (Drosophila)
F01	Hs.376984	NM_006941	SOX10	SRY (sex determining region Y)-box 10
F02	Hs.111779	NM_003118	SPARC	Secreted protein, acidic, cysteine-rich (osteonectin)
F03	Hs.313	NM_000582	SPP1	Secreted phosphoprotein 1
F04	Hs.463059	NM_003150	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)
F05	Hs.61635	NM_012449	STEAP1	Six transmembrane epithelial antigen of the prostate 1
F06	Hs.371282	NM_003200	TCF3	Transcription factor 3 (E2A immunoglobulin enhancer binding factors E12/E47)
F07	Hs.644653	NM_003199	TCF4	Transcription factor 4
F08	Hs.438231	NM_006528	TFPI2	Tissue factor pathway inhibitor 2
F09	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
F10	Hs.133379	NM_003238	TGFB2	Transforming growth factor, beta 2
F11	Hs.592317	NM_003239	TGFB3	Transforming growth factor, beta 3
F12	Hs.522632	NM_003254	TIMP1	TIMP metallopeptidase inhibitor 1
G01	Hs.598100	NM_003692	TMEFF1	Transmembrane protein with EGF-like and two follistatin-like domains 1
G02	Hs.118552	NM_178031	TMEM132A	Transmembrane protein 132A
G03	Hs.364544	NM_014399	TSPAN13	Tetraspanin 13
G04	Hs.66744	NM_000474	TWIST1	Twist homolog 1 (Drosophila)
G05	Hs.643801	NM_004385	VCAN	Versican
G06	Hs.642813	NM_003380	VIM	Vimentin
G07	Hs.459790	NM_033305	VPS13A	Vacuolar protein sorting 13 homolog A (S. cerevisiae)
G08	Hs.108219	NM_004626	WNT11	Wingless-type MMTV integration site family, member 11
G09	Hs.696364	NM_003392	WNT5A	Wingless-type MMTV integration site family, member 5A
G10	Hs.306051	NM_032642	WNT5B	Wingless-type MMTV integration site family, member 5B
G11	Hs.124503	NM_030751	ZEB1	Zinc finger E-box binding homeobox 1
G12	Hs.34871	NM_014795	ZEB2	Zinc finger E-box binding homeobox 2
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 qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with real-time cyclers that do not require a reference dye, including: Bio-Rad models CFX96, CFX384, DNA Engine Opticon 2; Bio-Rad/MJ Research Chromo4; Roche LightCycler 480 (96-well and 384-well); all other cyclers	330500
RT² SYBR Green ROX™ qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Applied Biosystems models 5700, 7000, 7300, 7500 [Standard and FAST], 7700, 7900HT 96-well block [Standard and FAST] and 384-well block, StepOnePlus; Eppendorf Mastercycler ep realplex models 2, 2S, 4, 4S; Stratagene models Mx3000P, Mx3005P, Mx4000; Takara TP-800	330520
RT² SYBR Green Fluor qPCR Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Bio-Rad models iCycler, iQ5, MyiQ, MyiQ2	330510

* 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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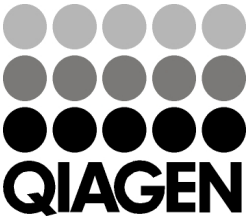

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