

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

Rat Epithelial to Mesenchymal Transition

Cat. no. 330231 PARN-090ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT ² 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
RT ² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT ² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT ² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT ² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT ² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT ² Profiler PCR Array, Format H	Fluidigm® BioMark™



Sample & Assay Technologies

Description

The Rat 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	Bmp7	Cald1	Camk2n1	Cav2	Cdh1	Cdh2	Col1a2	Col3a1	Col5a2	Ctgf
B	Ctnnb1	Dsc2	Dsp	Egfr	ErbB3	Esr1	F11r	Fgfbp1	Fgfr2	Fkbp1a	Fn1	Foxc2
C	Fzd7	Gng11	Gsc	Gsk3b	Igfbp4	Il1rn	Ilk	Itga5	Itgav	Itgb1	Jag1	Krt14
D	Krt19	Krt7	Map1b	Mif	Mmp2	Mmp3	Mmp9	Msn	Nodal	Notch1	Ocln	Pdgfrb
E	Plek2	Ppp3r1	Plk2	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	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.112831	XM_574618	Ahnak	AHNAK nucleoprotein
A02	Rn.11422	NM_033230	Akt1	V-akt murine thymoma viral oncogene homolog 1
A03	Rn.18030	XM_342591	Bmp7	Bone morphogenetic protein 7
A04	Rn.204926	NM_013146	Cald1	Caldesmon 1
A05	Rn.12600	NM_173337	Camk2n1	Calcium/calmodulin-dependent protein kinase II inhibitor 1
A06	Rn.81070	NM_131914	Cav2	Caveolin 2
A07	Rn.1303	NM_031334	Cdh1	Cadherin 1
A08	Rn.23200	NM_031333	Cdh2	Cadherin 2
A09	Rn.107239	NM_053356	Col1a2	Collagen, type I, alpha 2
A10	Rn.3247	NM_032085	Col3a1	Collagen, type III, alpha 1
A11	Rn.2875	NM_053488	Col5a2	Collagen, type V, alpha 2
A12	Rn.17145	NM_022266	Ctgf	Connective tissue growth factor
B01	Rn.112601	NM_053357	Ctnnb1	Catenin (cadherin associated protein), beta 1
B02	Rn.3954	NM_001033688	Dsc2	Desmocollin 2
B03	Rn.54711	XM_225259	Dsp	Desmoplakin
B04	Rn.37227	NM_031507	Egfr	Epidermal growth factor receptor
B05	Rn.10228	NM_017218	ErbB3	V-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian)
B06	Rn.10595	NM_012689	Esr1	Estrogen receptor 1
B07	Rn.107273	NM_053796	F11r	F11 receptor
B08	Rn.6346	NM_022603	Fgfbp1	Fibroblast growth factor binding protein 1
B09	Rn.12732	NM_001109892	Fgfr2	Fibroblast growth factor receptor 2
B10	Rn.80611	NM_013102	Fkbp1a	FK506 binding protein 1a
B11	Rn.1604	NM_019143	Fn1	Fibronectin 1
B12	Rn.216723	NM_001101680	Foxc2	Forkhead box C2
C01	Rn.1806	XM_237191	Fzd7	Frizzled homolog 7 (Drosophila)
C02	Rn.892	NM_022396	Gng11	Guanine nucleotide binding protein (G protein), gamma 11
C03	Rn.198763	XM_343101	Gsc	Goosecoid homeobox
C04	Rn.10426	NM_032080	Gsk3b	Glycogen synthase kinase 3 beta
C05	Rn.160666	NM_001004274	Igfbp4	Insulin-like growth factor binding protein 4
C06	Rn.162640	NM_022194	Il1rn	Interleukin 1 receptor antagonist
C07	Rn.95042	NM_133409	Ilk	Integrin-linked kinase
C08	Rn.100796	NM_001108118	Itga5	Integrin, alpha 5 (fibronectin receptor, alpha polypeptide)
C09	Rn.23339	NM_001106549	Itgav	Integrin, alpha V
C10	Rn.25733	NM_017022	Itgb1	Integrin, beta 1
C11	Rn.88804	NM_019147	Jag1	Jagged 1
C12	Rn.153972	NM_001008751	Krt14	Keratin 14
D01	Rn.9359	NM_199498	Krt19	Keratin 19
D02	Rn.7913	NM_001047870	Krt7	Keratin 7
D03	Rn.98152	NM_019217	Map1b	Microtubule-associated protein 1b
D04	Rn.207359	NM_001191089	Mif	Microphthalmia-associated transcription factor
D05	Rn.6422	NM_031054	Mmp2	Matrix metalloproteinase 2
D06	Rn.32086	NM_133523	Mmp3	Matrix metalloproteinase 3
D07	Rn.10209	NM_031055	Mmp9	Matrix metalloproteinase 9
D08	Rn.2762	NM_030863	Msn	Moesin
D09	Rn.218528	NM_001106394	Nodal	Nodal homolog (mouse)

Position	UniGene	GenBank	Symbol	Description
D10	Rn.25046	NM_001105721	Notch1	Notch homolog 1, translocation-associated (Drosophila)
D11	Rn.31429	NM_031329	Ocln	Occludin
D12	Rn.98311	NM_031525	Pdgfrb	Platelet derived growth factor receptor, beta polypeptide
E01	Rn.22995	NM_001114180	Plek2	Pleckstrin 2
E02	Rn.42903	NM_017309	Ppp3r1	Protein phosphatase 3, regulatory subunit B, alpha isoform
E03	Rn.2809	NM_013081	Ptk2	PTK2 protein tyrosine kinase 2
E04	Rn.9459	NM_031579	Ptp4a1	Protein tyrosine phosphatase type IVA, member 1
E05	Rn.29157	NM_134366	Rac1	Ras-related C3 botulinum toxin substrate 1
E06	Rn.1892	NM_053453	Rgs2	Regulator of G-protein signaling 2
E07	Rn.29367	NM_012620	Serpine1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
E08	Rn.34143	NM_053389	Sip1	Survival of motor neuron protein interacting protein 1
E09	Rn.2755	NM_019191	Smad2	SMAD family member 2
E10	Rn.8008	NM_053805	Snai1	Snail homolog 1 (Drosophila)
E11	Rn.43117	NM_013035	Snai2	Snail homolog 2 (Drosophila)
E12	Rn.127187	NM_001107439	Snai3	Snail homolog 3 (Drosophila)
F01	Rn.10883	NM_019193	Sox10	SRY (sex determining region Y)-box 10
F02	Rn.98989	NM_012656	Sparc	Secreted protein, acidic, cysteine-rich (osteonectin)
F03	Rn.8871	NM_012881	Spp1	Secreted phosphoprotein 1
F04	Rn.10247	NM_012747	Stat3	Signal transducer and activator of transcription 3
F05	Rn.51773	NM_001106629	Steap1	Six transmembrane epithelial antigen of the prostate 1
F06	Rn.33103	NM_001107865	Tcf3	Transcription factor 3
F07	Rn.23354	NM_053369	Tcf4	Transcription factor 4
F08	Rn.15776	NM_173141	Tfpi2	Tissue factor pathway inhibitor 2
F09	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
F10	Rn.24539	NM_031131	Tgfb2	Transforming growth factor, beta 2
F11	Rn.7018	NM_013174	Tgfb3	Transforming growth factor, beta 3
F12	Rn.25754	NM_053819	Timp1	TIMP metalloproteinase inhibitor 1
G01	Rn.162809	NM_023020	Tmeff1	Transmembrane protein with EGF-like and two follistatin-like domains 1
G02	Rn.160719	NM_178021	Tmem132a	Transmembrane protein 132A
G03	Rn.24284	NM_001013244	Tspan13	Tetraspanin 13
G04	Rn.161904	NM_053530	Twist1	Twist homolog 1 (Drosophila)
G05	Rn.35666	XM_215451	Vcan	Versican
G06	Rn.2710	NM_031140	Vim	Vimentin
G07	Rn.16931	NM_001100975	Vps13a	Vacuolar protein sorting 13 homolog A (S. cerevisiae)
G08	Rn.55941	NM_080401	Wnt11	Wingless-type MMTV integration site family, member 11
G09	Rn.48749	NM_022631	Wnt5a	Wingless-type MMTV integration site family, member 5A
G10	Rn.58724	NM_001100489	Wnt5b	Wingless-type MMTV integration site family, member 5B
G11	Rn.10600	NM_013164	Zeb1	Zinc finger E-box binding homeobox 1
G12	Rn.59710	NM_001033701	Zeb2	Zinc finger E-box binding homeobox 2
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.
RT ² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT ² 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
RT ² 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
RT ² 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.

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