

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

Cow Epithelial to Mesenchymal Transition (EMT)

Cat. no. 330231 PABT-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 Cow 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, research studies 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 *R72 Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	AHNAK	AKT1	BMP1	BMP7	CALD1	CAMK2N1	CAV2	CDH1	CDH2	COL1A2	COL3A1	COL5A2
B	CTGF	CTNBN1	DSC2	DSP	EGFR	ERBB3	ESR1	F11R	FGFR2	FN1	FOXC2	FZD7
C	GNG11	GSC	GSK3B	IGFBP4	IL1RN	ILK	ITGA5	ITGAV	ITGB1	JAG1	KRT14	KRT19
D	KRT7	MAP1B	MITF	MMP2	MMP3	MMP9	MSN	MST1R	NODAL	NOTCH1	NUDT13	OCLN
E	PDGFRB	PLEK2	PPP3R1	PTK2	PTP4A1	RAC1	RG52	SERPINE1	SMAD2	SNAI1	SNAI2	SNAI3
F	SOX10	SPARC	SPP1	STAT3	TCF3	TCF4	TCF7L1	TFPI2	TGFB1	TGFB2	TGFB3	TIMP1
G	TMEFF1	TMEM132A	TSPAN13	TWIST1	VCAN	VIM	VPS13A	WNT11	WNT5A	WNT5B	ZEB1	ZEB2
H	ACTB	GAPDH	HPRT1	TBP	YWHAZ	BGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Bt.26910	XM_002699316	AHNAK	AHNAK nucleoprotein
A02	Bt.4843	NM_173986	AKT1	V-akt murine thymoma viral oncogene homolog 1
A03	Bt.48679	XM_001788198	BMP1	Bone morphogenetic protein 1
A04	Bt.91306	NM_001206015	BMP7	Bone morphogenetic protein 7
A05	Bt.59726	NM_174258	CALD1	Caldesmon 1
A06	Bt.16230	NM_001114520	CAMK2N1	Calcium/calmodulin-dependent protein kinase II inhibitor 1
A07	Bt.13989	NM_001007808	CAV2	Caveolin 2
A08	Bt.64827	NM_001002763	CDH1	Cadherin 1, type 1, E-cadherin (epithelial)
A09	Bt.4417	NM_001166492	CDH2	Cadherin 2, type 1, N-cadherin (neuronal)
A10	Bt.53485	NM_174520	COL1A2	Collagen, type I, alpha 2
A11	Bt.106557	NM_001076831	COL3A1	Collagen, type III, alpha 1
A12	Bt.55266	XR_083218	COL5A2	Collagen, type V, alpha 2
B01	Bt.5240	NM_174030	CTGF	Connective tissue growth factor
B02	Bt.33687	NM_001076141	CTNBN1	Catenin (cadherin-associated protein), beta 1, 88kDa
B03	Bt.4107	NM_001166526	DSC2	Desmocollin 2
B04	Bt.40471	NM_001192368	DSP	Desmoplakin
B05	Bt.6422	XM_002696890	EGFR	Epidermal growth factor receptor
B06	Bt.64779	NM_001103105	ERBB3	V-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian)
B07	Bt.32558	NM_001001443	ESR1	Estrogen receptor 1
B08	Bt.34094	NM_174095	F11R	F11 receptor
B09	Bt.8088	NM_001205310	FGFR2	Fibroblast growth factor receptor 2
B10	Bt.23418	NM_001163778	FN1	Fibronectin 1
B11	Bt.30376	NM_001193072	FOXC2	Forkhead box C2 (MFH-1, mesenchyme forkhead 1)
B12	Bt.105583	NM_001144091	FZD7	Frizzled family receptor 7
C01	Bt.2988	NM_001024523	GNG11	Guanine nucleotide binding protein (G protein), gamma 11
C02	Bt.106434	NM_001192386	GSC	Goosecoid homeobox
C03	Bt.48740	NM_001101310	GSK3B	Glycogen synthase kinase 3 beta
C04	Bt.5237	NM_174557	IGFBP4	Insulin-like growth factor binding protein 4
C05	Bt.4199	NM_174357	IL1RN	Interleukin 1 receptor antagonist
C06	Bt.4790	NM_001034693	ILK	Integrin-linked kinase
C07	Bt.27462	NM_001166500	ITGA5	Integrin, alpha 5 (fibronectin receptor, alpha polypeptide)
C08	Bt.5273	NM_174367	ITGAV	Integrin, alpha V (vitronectin receptor, alpha polypeptide, antigen CD51)
C09	Bt.9973	NM_174368	ITGB1	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)
C10	Bt.65686	NM_001191178	JAG1	Jagged 1
C11	Bt.91072	NM_001166575	KRT14	Keratin 14
C12	Bt.59155	NM_001015600	KRT19	Keratin 19
D01	Bt.29236	NM_001046411	KRT7	Keratin 7
D02	Bt.37111	NM_001206119	MAP1B	Microtubule-associated protein 1B
D03	Bt.29882	NM_001001150	MITF	Microphthalmia-associated transcription factor
D04	Bt.5313	NM_174745	MMP2	Matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)
D05	Bt.18504	NM_001206637	MMP3	Matrix metalloproteinase 3 (stromelysin 1, progelatinase)
D06	Bt.4714	NM_174744	MMP9	Matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)

Position	UniGene	GenBank	Symbol	Description
D07	Bt.9207	NM_001046477	MSN	Moesin
D08	Bt.24706	XM_002697035	MST1R	Macrophage stimulating 1 receptor (c-met-related tyrosine kinase)
D09	Bt.88746	NM_001205982	NODAL	Nodal homolog (mouse)
D10	Bt.53527	XM_001252842	NOTCH1	Notch homolog 1, translocation-associated (Drosophila)
D11	Bt.56172	NM_001045905	NUDT13	Nudix (nucleoside diphosphate linked moiety X)-type motif 13
D12	Bt.63362	NM_001082433	OCLN	Occludin
E01	Bt.74208	NM_001075896	PDGFRB	Platelet-derived growth factor receptor, beta polypeptide
E02	Bt.92257	NM_001102334	PLEK2	Pleckstrin 2
E03	Bt.212	NM_174583	PPP3R1	Protein phosphatase 3, regulatory subunit B, alpha
E04	Bt.63222	NM_001075250	PTK2	PTK2 protein tyrosine kinase 2
E05	Bt.24291	NM_001206124	PTP4A1	Protein tyrosine phosphatase type IVA, member 1
E06	Bt.64538	NM_174163	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
E07	Bt.10855	NM_001075596	RGS2	Regulator of G-protein signaling 2, 24kDa
E08	Bt.5229	NM_174137	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
E09	Bt.88605	NM_001046218	SMAD2	SMAD family member 2
E10	Bt.61987	NM_001112708	SNAI1	Snail homolog 1 (Drosophila)
E11	Bt.4565	NM_001034538	SNAI2	Snail homolog 2 (Drosophila)
E12	Bt.106440	NM_001192633	SNAI3	Snail homolog 3 (Drosophila)
F01	Bt.22876	NM_001193247	SOX10	SRY (sex determining region Y)-box 10
F02	Bt.48850	NM_174464	SPARC	Secreted protein, acidic, cysteine-rich (osteonectin)
F03	Bt.10536	NM_174187	SPP1	Secreted phosphoprotein 1
F04	Bt.15334	NM_001012671	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)
F05	Bt.3789	NM_001192698	TCF3	Transcription factor 3 (E2A immunoglobulin enhancer binding factors E12/E47)
F06	Bt.72435	NM_001034621	TCF4	Transcription factor 4
F07	Bt.44249	XM_002691408	TCF7L1	Transcription factor 7-like 1 (T-cell specific, HMG-box)
F08	Bt.29514	NM_182788	TFPI2	Tissue factor pathway inhibitor 2
F09	Bt.469	NM_001166068	TGFB1	Transforming growth factor, beta 1
F10	Bt.6438	NM_001113252	TGFB2	Transforming growth factor, beta 2
F11	Bt.54513	NM_001101183	TGFB3	Transforming growth factor, beta 3
F12	Bt.27976	NM_174471	TIMP1	TIMP metalloproteinase inhibitor 1
G01	Bt.52359	NM_001205476	TMEFF1	Transmembrane protein with EGF-like and two follistatin-like domains 1
G02	Bt.3387	NM_001102237	TMEM132A	Transmembrane protein 132A
G03	Bt.49488	NM_001035362	TSPAN13	Tetraspanin 13
G04	Bt.14289	NM_001191145	TWIST1	Twist homolog 1 (Drosophila)
G05	Bt.5395	NM_181035	VCAN	Versican
G06	Bt.11149	NM_173969	VIM	Vimentin
G07	Bt.106071	XM_001787673	VPS13A	Vacuolar protein sorting 13 homolog A (S. cerevisiae)
G08	Bt.21876	NM_001082456	WNT11	Wingless-type MMTV integration site family, member 11
G09	Bt.88484	NM_001205971	WNT5A	Wingless-type MMTV integration site family, member 5A
G10	Bt.6367	NM_001205628	WNT5B	Wingless-type MMTV integration site family, member 5B
G11	Bt.5549	NM_001206590	ZEB1	Zinc finger E-box binding homeobox 1
G12	Bt.99328	NM_001076192	ZEB2	Zinc finger E-box binding homeobox 2
H01	Bt.14186	NM_173979	ACTB	Actin, beta
H02	Bt.87389	NM_001034034	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H03	Bt.49238	NM_001034035	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H04	Bt.22662	NM_001075742	TBP	TATA box binding protein
H05	Bt.88043	NM_174814	YWHAZ	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta polypeptide
H06	N/A	SA_00137	BGDC	Cow 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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