

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

Rat TGFb / BMP Signaling Pathway

Cat. no. 330231 PARN-035ZA

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 TGF β / BMP Signaling Pathway RT² Profiler PCR Array profiles the expression of 84 genes related to TGF β / BMP-mediated signal transduction. The array includes members of the TGF β superfamily of cytokines and their receptors. SMAD and SMAD target genes are included. Related genes including adhesion and extracellular molecules and transcription factors are included. Some of the genes involved in downstream cellular and developmental processes are also represented. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to TGF β / BMP-mediated signal transduction 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	<i>Acvr1</i>	<i>Acvr2a</i>	<i>Acvr1</i>	<i>Amh</i>	<i>Amhr2</i>	<i>Atf4</i>	<i>Bambi</i>	<i>Bglap</i>	<i>Bmp1</i>	<i>Bmp2</i>	<i>Bmp3</i>	<i>Bmp4</i>
B	<i>Bmp5</i>	<i>Bmp6</i>	<i>Bmp7</i>	<i>Bmper</i>	<i>Bmpr1a</i>	<i>Bmpr1b</i>	<i>Bmpr2</i>	<i>Cdkn1a</i>	<i>Cdkn1b</i>	<i>Cdkn2b</i>	<i>Chrd</i>	<i>Col1a1</i>
C	<i>Col1a2</i>	<i>Dcn</i>	<i>Dlx2</i>	<i>Emp1</i>	<i>Eng</i>	<i>Fos</i>	<i>Fst</i>	<i>Gadd45b</i>	<i>Gdf3</i>	<i>Gdf5</i>	<i>Gdf6</i>	<i>Gdf7</i>
D	<i>Gsc</i>	<i>Herpud1</i>	<i>Hipk2</i>	<i>Id1</i>	<i>Id2</i>	<i>lfrd1</i>	<i>Igf1</i>	<i>Igfbp3</i>	<i>Il6</i>	<i>Inha</i>	<i>Inhba</i>	<i>Inhbb</i>
E	<i>Jun</i>	<i>Junb</i>	<i>Ltp1</i>	<i>Ltpb2</i>	<i>Mecom</i>	<i>Myc</i>	<i>Nodal</i>	<i>Nog</i>	<i>Pdgfb</i>	<i>Plat</i>	<i>Plau</i>	<i>Runx1</i>
F	<i>Serpine1</i>	<i>Smad1</i>	<i>Smad2</i>	<i>Smad3</i>	<i>Smad4</i>	<i>Smad5</i>	<i>Smad6</i>	<i>Smad7</i>	<i>Sox4</i>	<i>Stat1</i>	<i>Tdgf1</i>	<i>Tgfb1</i>
G	<i>Tgfb11</i>	<i>Tgfb2</i>	<i>Tgfb3</i>	<i>Tgfb1</i>	<i>Tgfb2</i>	<i>Tgfb3</i>	<i>Tgfb3</i>	<i>Tgfb3</i>	<i>Tgfb3</i>	<i>Thbs1</i>	<i>Tnfrsf10</i>	<i>Tsc22d1</i>
H	<i>Actb</i>	<i>B2m</i>	<i>Hprt1</i>	<i>Ldha</i>	<i>Rplp1</i>	<i>RGDC</i>	<i>RTC</i>	<i>RTC</i>	<i>RTC</i>	<i>PPC</i>	<i>PPC</i>	<i>PPC</i>

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.87899	NM_024486	Acvr1	Activin A receptor, type I
A02	Rn.161783	NM_031571	Acvr2a	Activin A receptor, type IIA
A03	Rn.10631	NM_022441	Acvr1	Activin A receptor type II-like 1
A04	Rn.19121	NM_012902	Amh	Anti-Mullerian hormone
A05	Rn.10165	NM_030998	Amhr2	Anti-Mullerian hormone receptor, type II
A06	Rn.2423	NM_024403	Atf4	Activating transcription factor 4 (tax-responsive enhancer element B67)
A07	Rn.25267	NM_139082	Bambi	BMP and activin membrane-bound inhibitor, homolog (Xenopus laevis)
A08	Rn.9722	NM_013414	Bglap	Bone gamma-carboxyglutamate (gla) protein
A09	Rn.9305	NM_031323	Bmp1	Bone morphogenetic protein 1
A10	Rn.90931	NM_017178	Bmp2	Bone morphogenetic protein 2
A11	Rn.208979	NM_017105	Bmp3	Bone morphogenetic protein 3
A12	Rn.10318	NM_012827	Bmp4	Bone morphogenetic protein 4
B01	Rn.135799	NM_001108168	Bmp5	Bone morphogenetic protein 5
B02	Rn.40476	NM_013107	Bmp6	Bone morphogenetic protein 6
B03	Rn.18030	XM_342591	Bmp7	Bone morphogenetic protein 7
B04	Rn.62611	NM_001135799	Bmper	BMP-binding endothelial regulator
B05	Rn.88925	NM_030849	Bmpr1a	Bone morphogenetic protein receptor, type IA
B06	Rn.215592	NM_001024259	Bmpr1b	Bone morphogenetic protein receptor, type IB
B07	Rn.59276	NM_080407	Bmpr2	Bone morphogenetic protein receptor, type II (serine/threonine kinase)
B08	Rn.10089	NM_080782	Cdkn1a	Cyclin-dependent kinase inhibitor 1A
B09	Rn.29897	NM_031762	Cdkn1b	Cyclin-dependent kinase inhibitor 1B
B10	Rn.105626	NM_130812	Cdkn2b	Cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)
B11	Rn.29459	NM_057134	Chrd	Chordin
B12	Rn.2953	NM_053304	Col1a1	Collagen, type I, alpha 1
C01	Rn.107239	NM_053356	Col1a2	Collagen, type I, alpha 2
C02	Rn.106103	NM_024129	Dcn	Decorin
C03	Rn.144853	XM_230986	Dlx2	Distal-less homeobox 2
C04	Rn.19723	NM_012843	Emp1	Epithelial membrane protein 1
C05	Rn.187025	NM_001010968	Eng	Endoglin
C06	Rn.103750	NM_022197	Fos	FBJ osteosarcoma oncogene
C07	Rn.162557	NM_012561	Fst	Follistatin
C08	Rn.35886	NM_001008321	Gadd45b	Growth arrest and DNA-damage-inducible, beta
C09	Rn.202592	NM_001109671	Gdf3	Growth differentiation factor 3
C10	Rn.127822	XM_001066344	Gdf5	Growth differentiation factor 5
C11	Rn.49815	NM_001013038	Gdf6	Growth differentiation factor 6
C12	Rn.92437	NM_001170350	Gdf7	Growth differentiation factor 7
D01	Rn.198763	XM_343101	Gsc	Goosecoid homeobox
D02	Rn.4028	NM_053523	Herpud1	Homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1
D03	Rn.8042	NM_001108622	Hipk2	Homeodomain interacting protein kinase 2
D04	Rn.2113	NM_012797	Id1	Inhibitor of DNA binding 1
D05	Rn.3272	NM_013060	Id2	Inhibitor of DNA binding 2
D06	Rn.3723	NM_019242	lfrd1	Interferon-related developmental regulator 1
D07	Rn.6282	NM_178866	Igf1	Insulin-like growth factor 1
D08	Rn.26369	NM_012588	Igfbp3	Insulin-like growth factor binding protein 3

Position	UniGene	GenBank	Symbol	Description
D09	Rn.9873	NM_012589	Il6	Interleukin 6
D10	Rn.8831	NM_012590	Inha	Inhibin alpha
D11	Rn.9874	NM_017128	Inhba	Inhibin beta-A
D12	Rn.35074	NM_080771	Inhbb	Inhibin beta-B
E01	Rn.93714	NM_021835	Jun	Jun oncogene
E02	Rn.15806	NM_021836	Junb	Jun B proto-oncogene
E03	Rn.40942	NM_021587	Ltbp1	Latent transforming growth factor beta binding protein 1
E04	Rn.40921	NM_021586	Ltbp2	Latent transforming growth factor beta binding protein 2
E05	Rn.20198	NM_001106423	Mecom	MDS1 and EVI1 complex locus
E06	Rn.12072	NM_012603	Myc	Myelocytomatosis oncogene
E07	Rn.218528	NM_001106394	Nodal	Nodal homolog (mouse)
E08	Rn.10154	NM_012990	Nog	Noggin
E09	Rn.198230	NM_031524	Pdgfb	Platelet-derived growth factor beta polypeptide (simian sarcoma viral (v-sis) oncogene homolog)
E10	Rn.107102	NM_013151	Plat	Plasminogen activator, tissue
E11	Rn.6064	NM_013085	Plau	Plasminogen activator, urokinase
E12	Rn.11201	NM_017325	Runx1	Run1-related transcription factor 1
F01	Rn.29367	NM_012620	Serpine1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F02	Rn.10635	NM_013130	Smad1	SMAD family member 1
F03	Rn.2755	NM_019191	Smad2	SMAD family member 2
F04	Rn.10636	NM_013095	Smad3	SMAD family member 3
F05	Rn.9774	NM_019275	Smad4	SMAD family member 4
F06	Rn.146857	NM_021692	Smad5	SMAD family member 5
F07	Rn.42472	NM_001109002	Smad6	SMAD family member 6
F08	Rn.29980	NM_030858	Smad7	SMAD family member 7
F09	Rn.163667	XM_344594	Sox4	SRY (sex determining region Y)-box 4
F10	Rn.33229	NM_032612	Stat1	Signal transducer and activator of transcription 1
F11	N/A	XM_001056317	Tdgf1	Teratocarcinoma-derived growth factor 1
F12	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G01	Rn.103260	XM_341934	Tgfb1l1	Transforming growth factor beta 1 induced transcript 1
G02	Rn.24539	NM_031131	Tgfb2	Transforming growth factor, beta 2
G03	Rn.7018	NM_013174	Tgfb3	Transforming growth factor, beta 3
G04	Rn.1046	NM_053802	Tgfb1	Transforming growth factor, beta induced
G05	Rn.44402	NM_012775	Tgfb1r1	Transforming growth factor, beta receptor 1
G06	Rn.9954	NM_031132	Tgfb1r2	Transforming growth factor, beta receptor II
G07	Rn.9953	NM_017256	Tgfb1r3	Transforming growth factor, beta receptor III
G08	Rn.12953	NM_001106907	Tgfb1rap1	Transforming growth factor, beta receptor associated protein 1
G09	Rn.154349	NM_001015020	Tgfb1f1	TGFB-induced factor homeobox 1
G10	Rn.185771	NM_001013062	Thbs1	Thrombospondin 1
G11	Rn.83627	NM_145681	Tnfrsf10	Tumor necrosis factor (ligand) superfamily, member 10
G12	Rn.3545	XM_001072618	Tsc22d1	TSC22 domain family, member 1
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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