

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

Human TGFb / BMP Signaling Pathway

Cat. no. 330231 PAHS-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 Human TGFB / BMP Signaling Pathway RT² Profiler PCR Array profiles the expression of 84 genes related to TGFB / BMP-mediated signal transduction. The array includes members of the TGFB 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 TGFB / 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	ACVR1	ACVR2A	ACVRL1	AMH	AMHR2	ATF4	BAMBI	BGLAP	BMP1	BMP2	BMP3	BMP4
B	BMP5	BMP6	BMP7	BMPER	BMPR1A	BMPR1B	BMPR2	CDKN1A	CDKN1B	CDKN2B	CHRD	COL1A1
C	COL1A2	DCN	DLX2	EMP1	ENG	FOS	FST	GADD45B	GDF2	GDF3	GDF5	GDF6
D	GDF7	GSC	HERPUD1	HIPK2	ID1	ID2	IFRD1	IGF1	IGFBP3	IL6	INHBA	INHBB
E	INHBB	JUN	JUNB	LEFTY1	LTBP1	LTBP2	MECOM	MYC	NODAL	NOG	PDGFB	PLAU
F	RUNX1	SERPINE1	SMAD1	SMAD2	SMAD3	SMAD4	SMAD5	SMAD7	SMURF1	SOX4	STAT1	TGFB1
G	TGFB111	TGFB2	TGFB3	TGFB1	TGFBR1	TGFBR2	TGFBR3	TGFBRAP1	TGIF1	THBS1	TNFSF10	TSC22D1
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.470316	NM_001105	ACVR1	Activin A receptor, type I
A02	Hs.470174	NM_001616	ACVR2A	Activin A receptor, type IIA
A03	Hs.591026	NM_000020	ACVRL1	Activin A receptor type II-like 1
A04	Hs.112432	NM_000479	AMH	Anti-Mullerian hormone
A05	Hs.659889	NM_020547	AMHR2	Anti-Mullerian hormone receptor, type II
A06	Hs.496487	NM_001675	ATF4	Activating transcription factor 4 (tax-responsive enhancer element B67)
A07	Hs.533336	NM_012342	BAMBI	BMP and activin membrane-bound inhibitor homolog (Xenopus laevis)
A08	Hs.654541	NM_199173	BGLAP	Bone gamma-carboxyglutamate (gla) protein
A09	Hs.1274	NM_006129	BMP1	Bone morphogenetic protein 1
A10	Hs.73853	NM_001200	BMP2	Bone morphogenetic protein 2
A11	Hs.387411	NM_001201	BMP3	Bone morphogenetic protein 3
A12	Hs.68879	NM_130851	BMP4	Bone morphogenetic protein 4
B01	Hs.296648	NM_021073	BMP5	Bone morphogenetic protein 5
B02	Hs.285671	NM_001718	BMP6	Bone morphogenetic protein 6
B03	Hs.473163	NM_001719	BMP7	Bone morphogenetic protein 7
B04	Hs.660998	NM_133468	BMPER	BMP binding endothelial regulator
B05	Hs.524477	NM_004329	BMPR1A	Bone morphogenetic protein receptor, type IA
B06	Hs.598475	NM_001203	BMPR1B	Bone morphogenetic protein receptor, type IB
B07	Hs.471119	NM_001204	BMPR2	Bone morphogenetic protein receptor, type II (serine/threonine kinase)
B08	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
B09	Hs.238990	NM_004064	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)
B10	Hs.72901	NM_004936	CDKN2B	Cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)
B11	Hs.166186	NM_003741	CHRD	Chordin
B12	Hs.172928	NM_000088	COL1A1	Collagen, type I, alpha 1
C01	Hs.489142	NM_000089	COL1A2	Collagen, type I, alpha 2
C02	Hs.728830	NM_001920	DCN	Decorin
C03	Hs.419	NM_004405	DLX2	Distal-less homeobox 2
C04	Hs.707901	NM_001423	EMP1	Epithelial membrane protein 1
C05	Hs.76753	NM_000118	ENG	Endoglin
C06	Hs.728789	NM_005252	FOS	FBJ murine osteosarcoma viral oncogene homolog
C07	Hs.9914	NM_006350	FST	Follistatin
C08	Hs.110571	NM_015675	GADD45B	Growth arrest and DNA-damage-inducible, beta
C09	Hs.279463	NM_016204	GDF2	Growth differentiation factor 2
C10	Hs.86232	NM_020634	GDF3	Growth differentiation factor 3
C11	Hs.1573	NM_000557	GDF5	Growth differentiation factor 5
C12	Hs.492277	NM_001001557	GDF6	Growth differentiation factor 6
D01	Hs.447688	NM_182828	GDF7	Growth differentiation factor 7
D02	Hs.440438	NM_173849	GSC	Goosecoid homeobox
D03	Hs.146393	NM_014685	HERPUD1	Homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1
D04	Hs.729705	NM_022740	HIPK2	Homeodomain interacting protein kinase 2
D05	Hs.504609	NM_002165	ID1	Inhibitor of DNA binding 1, dominant negative helix-loop-helix protein
D06	Hs.180919	NM_002166	ID2	Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein
D07	Hs.7879	NM_001550	IFRD1	Interferon-related developmental regulator 1
D08	Hs.160562	NM_000618	IGF1	Insulin-like growth factor 1 (somatomedin C)

Position	UniGene	GenBank	Symbol	Description
D09	Hs.450230	NM_000598	IGFBP3	Insulin-like growth factor binding protein 3
D10	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
D11	Hs.407506	NM_002191	INHAI	Inhibin, alpha
D12	Hs.583348	NM_002192	INHBA	Inhibin, beta A
E01	Hs.1735	NM_002193	INHBB	Inhibin, beta B
E02	Hs.714791	NM_002228	JUN	Jun proto-oncogene
E03	Hs.25292	NM_002229	JUNB	Jun B proto-oncogene
E04	Hs.656214	NM_020997	LEFTY1	Left-right determination factor 1
E05	Hs.713533	NM_000627	LTBP1	Latent transforming growth factor beta binding protein 1
E06	Hs.512776	NM_000428	LTBP2	Latent transforming growth factor beta binding protein 2
E07	Hs.656395	NM_005241	MECOM	MDS1 and EVI1 complex locus
E08	Hs.202453	NM_002467	MYC	V-myc myelocytomatosis viral oncogene homolog (avian)
E09	Hs.370414	NM_018055	NODAL	Nodal homolog (mouse)
E10	Hs.248201	NM_005450	NOG	Noggin
E11	Hs.1976	NM_002608	PDGFB	Platelet-derived growth factor beta polypeptide
E12	Hs.77274	NM_002658	PLAU	Plasminogen activator, urokinase
F01	Hs.149261	NM_001754	RUNX1	Runt-related transcription factor 1
F02	Hs.414795	NM_000602	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F03	Hs.604588	NM_005900	SMAD1	SMAD family member 1
F04	Hs.12253	NM_005901	SMAD2	SMAD family member 2
F05	Hs.714621	NM_005902	SMAD3	SMAD family member 3
F06	Hs.75862	NM_005359	SMAD4	SMAD family member 4
F07	Hs.167700	NM_005903	SMAD5	SMAD family member 5
F08	Hs.465087	NM_005904	SMAD7	SMAD family member 7
F09	Hs.189329	NM_020429	SMURF1	SMAD specific E3 ubiquitin protein ligase 1
F10	Hs.643910	NM_003107	SOX4	SRY (sex determining region Y)-box 4
F11	Hs.642990	NM_007315	STAT1	Signal transducer and activator of transcription 1, 91kDa
F12	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
G01	Hs.513530	NM_015927	TGFB1I1	Transforming growth factor beta 1 induced transcript 1
G02	Hs.133379	NM_003238	TGFB2	Transforming growth factor, beta 2
G03	Hs.592317	NM_003239	TGFB3	Transforming growth factor, beta 3
G04	Hs.369397	NM_000358	TGFB1	Transforming growth factor, beta-induced, 68kDa
G05	Hs.494622	NM_004612	TGFBRI	Transforming growth factor, beta receptor 1
G06	Hs.604277	NM_003242	TGFBRII	Transforming growth factor, beta receptor II (70/80kDa)
G07	Hs.482390	NM_003243	TGFBRII	Transforming growth factor, beta receptor III
G08	Hs.446350	NM_004257	TGFBRII1	Transforming growth factor, beta receptor associated protein 1
G09	Hs.373550	NM_003244	TGFI1	TGFB-induced factor homeobox 1
G10	Hs.164226	NM_003246	THBS1	Thrombospondin 1
G11	Hs.478275	NM_003810	TNFSF10	Tumor necrosis factor (ligand) superfamily, member 10
G12	Hs.507916	NM_006022	TSC22D1	TSC22 domain 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.
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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