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

Human TGFb Signaling Pathway Plus

Cat. no. 330231 PAHS-035YA

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 TGFβ/BMP Signaling Pathway Plus RT² Profiler PCR Array profiles the expression of 84 genes related to TGFβ/BMP-mediated signal transduction. It also determines whether TGF pathway activity is activated, repressed, or unchanged in experimental samples. The array includes members of the TGFβ 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. The array also includes 16 experimentally derived Signature Biomarker Genes which, along with classification algorithms, are used to generate the activity score. A set of controls present on each array enables data analysis using the ΔΔCT method of relative quantification, assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably determine TGF signaling pathway activity and analyze expression of a focused panel of genes related to TGFβ/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	CDKN1A	CDKN1B	CDKN2B	CHRD	COL1A1	COL1A2
C	DCN	EMP1	ENG	GADD45B	GDF2	GDF3	GDF5	GDF6	GDF7	GSC	HERPUD1	ID1
D	ID2	IFRD1	IGF1	IGFBP3	IL6	INHA	LEFTY1	LTBP1	MYC	NODAL	NOG	PDGFB
E	PLAU	SMAD1	SMAD2	SMAD3	SMAD4	SMAD5	SMAD7	SMURF1	STAT1	TGFB1	TGFB1I1	TGFB2
F	TGFB3	TGFBI	TGFBR1	TGFBR2	TGFBR3	TGIF1	THBS1	TNFSF10	ACTC1	BMPR2	EGR2	FAS
G	FGF2	FSTL3	JUNB	KANK4	KLHL24	NOV	PMEPA1	SERPINE1	SMAD6	SOX4	STK38L	UBASH3B
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.732576	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
B08	Hs.238990	NM_004064	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)
B09	Hs.72901	NM_004936	CDKN2B	Cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)
B10	Hs.166186	NM_003741	CHRD	Chordin
B11	Hs.681002	NM_000088	COL1A1	Collagen, type I, alpha 1
B12	Hs.489142	NM_000089	COL1A2	Collagen, type I, alpha 2
C01	Hs.156316	NM_001920	DCN	Decorin
C02	Hs.719042	NM_001423	EMP1	Epithelial membrane protein 1
C03	Hs.76753	NM_000118	ENG	Endoglin
C04	Hs.110571	NM_015675	GADD45B	Growth arrest and DNA-damage-inducible, beta
C05	Hs.279463	NM_016204	GDF2	Growth differentiation factor 2
C06	Hs.86232	NM_020634	GDF3	Growth differentiation factor 3
C07	Hs.1573	NM_000557	GDF5	Growth differentiation factor 5
C08	Hs.492277	NM_001001557	GDF6	Growth differentiation factor 6
C09	Hs.447688	NM_182828	GDF7	Growth differentiation factor 7
C10	Hs.440438	NM_173849	GSC	Goosecoid homeobox
C11	Hs.146393	NM_014685	HERPUD1	Homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1
C12	Hs.504609	NM_002165	ID1	Inhibitor of DNA binding 1, dominant negative helix-loop-helix protein
D01	Hs.726053	NM_002166	ID2	Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein
D02	Hs.7879	NM_001550	IFRD1	Interferon-related developmental regulator 1
D03	Hs.160562	NM_000618	IGF1	Insulin-like growth factor 1 (somatomedin C)
D04	Hs.450230	NM_000598	IGFBP3	Insulin-like growth factor binding protein 3
D05	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
D06	Hs.407506	NM_002191	INHA	Inhibin, alpha
D07	Hs.656214	NM_020997	LEFTY1	Left-right determination factor 1
D08	Hs.619315	NM_000627	LTBP1	Latent transforming growth factor beta binding protein 1

Position	UniGene	GenBank	Symbol	Description
D09	Hs.202453	NM_002467	MYC	V-myc myelocytomatosis viral oncogene homolog (avian)
D10	Hs.370414	NM_018055	NODAL	Nodal homolog (mouse)
D11	Hs.248201	NM_005450	NOG	Noggin
D12	Hs.1976	NM_002608	PDGFB	Platelet-derived growth factor beta polypeptide
E01	Hs.77274	NM_002658	PLAU	Plasminogen activator, urokinase
E02	Hs.604588	NM_005900	SMAD1	SMAD family member 1
E03	Hs.705764	NM_005901	SMAD2	SMAD family member 2
E04	Hs.742270	NM_005902	SMAD3	SMAD family member 3
E05	Hs.75862	NM_005359	SMAD4	SMAD family member 4
E06	Hs.167700	NM_005903	SMAD5	SMAD family member 5
E07	Hs.465087	NM_005904	SMAD7	SMAD family member 7
E08	Hs.189329	NM_020429	SMURF1	SMAD specific E3 ubiquitin protein ligase 1
E09	Hs.743244	NM_007315	STAT1	Signal transducer and activator of transcription 1, 91kDa
E10	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
E11	Hs.513530	NM_015927	TGFB1I1	Transforming growth factor beta 1 induced transcript 1
E12	Hs.133379	NM_003238	TGFB2	Transforming growth factor, beta 2
F01	Hs.592317	NM_003239	TGFB3	Transforming growth factor, beta 3
F02	Hs.369397	NM_000358	TGFBI	Transforming growth factor, beta-induced, 68kDa
F03	Hs.494622	NM_004612	TGFBR1	Transforming growth factor, beta receptor 1
F04	Hs.82028	NM_003242	TGFBR2	Transforming growth factor, beta receptor II (70/80kDa)
F05	Hs.735919	NM_003243	TGFBR3	Transforming growth factor, beta receptor III
F06	Hs.373550	NM_003244	TGIF1	TGFB-induced factor homeobox 1
F07	Hs.164226	NM_003246	THBS1	Thrombospondin 1
F08	Hs.478275	NM_003810	TNFSF10	Tumor necrosis factor (ligand) superfamily, member 10
F09	Hs.118127	NM_005159	ACTC1	Actin, alpha, cardiac muscle 1
F10	Hs.471119	NM_001204	BMPR2	Bone morphogenetic protein receptor, type II (serine/threonine kinase)
F11	Hs.1395	NM_000399	EGR2	Early growth response 2
F12	Hs.244139	NM_000043	FAS	Fas (TNF receptor superfamily, member 6)
G01	Hs.284244	NM_002006	FGF2	Fibroblast growth factor 2 (basic)
G02	Hs.529038	NM_005860	FSTL3	Follistatin-like 3 (secreted glycoprotein)
G03	Hs.25292	NM_002229	JUNB	Jun B proto-oncogene
G04	Hs.283398	NM_181712	KANK4	KN motif and ankyrin repeat domains 4
G05	Hs.407709	NM_017644	KLHL24	Kelch-like 24 (Drosophila)
G06	Hs.235935	NM_002514	NOV	Nephroblastoma overexpressed gene
G07	Hs.517155	NM_020182	PMEPA1	Prostate transmembrane protein, androgen induced 1
G08	Hs.713079	NM_000602	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
G09	Hs.153863	NM_005585	SMAD6	SMAD family member 6
G10	Hs.643910	NM_003107	SOX4	SRY (sex determining region Y)-box 4
G11	Hs.184523	NM_015000	STK38L	Serine/threonine kinase 38 like
G12	Hs.444075	NM_032873	UBASH3B	Ubiquitin associated and SH3 domain containing B
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.544577	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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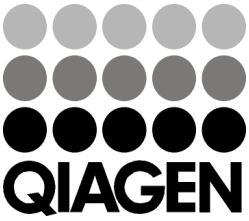

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