

# RT<sup>2</sup> Profiler PCR Array (Rotor-Gene<sup>®</sup> Format)

## Rat TGFb / BMP Signaling Pathway

Cat. no. 330231 PARN-035ZR

### For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

### Description

The Rat TGF $\beta$  / BMP Signaling Pathway RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 genes related to TGF $\beta$  / BMP-mediated signal transduction. The array includes members of the TGF $\beta$  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 $\beta$  / BMP-mediated signal transduction with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

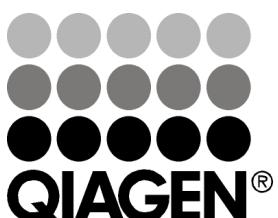
### Shipping and storage

RT<sup>2</sup> Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

For long term storage, keep plates at -20°C.

**Note:** Ensure that you have the correct RT<sup>2</sup> Profiler PCR Array format for your real-time cycler (see table above).

**Note:** Open the package and store the products appropriately immediately on receipt.



Sample & Assay Technologies

## Array layout

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc™ (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance.

## Gene table: RT<sup>2</sup> 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	Acvr1l	Activin A receptor type II-like 1
A04	Rn.19121	NM_012902	Anh	Anti-Mullerian hormone
A05	Rn.10165	NM_030998	Amhr2	Anti-Mullerian hormone receptor, type II
A06	Rn.2423	NM_024403	Aff4	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	Bmp8r	BMP-binding endothelial regulator
B05	Rn.88925	NM_030849	Bmp1a	Bone morphogenetic protein receptor, type IA
B06	Rn.215592	NM_001024259	Bmp1b	Bone morphogenetic protein receptor, type IB
B07	Rn.59276	NM_080407	Bmp2r	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	Ifrd1	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
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	Myelocytomatous oncogene
E07	Rn.218528	NM_001106394	Nodal	Nodal homolog (mouse)
E08	Rn.10154	NM_012990	Nog	Noggin

Position	UniGene	GenBank	Symbol	Description
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	Runt-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	Tgfb1i1	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	Tgfb1i	Transforming growth factor, beta induced
G05	Rn.44402	NM_012775	Tgfb1r	Transforming growth factor, beta receptor 1
G06	Rn.9954	NM_031132	Tgfb2r	Transforming growth factor, beta receptor II
G07	Rn.9953	NM_017256	Tgfb3r	Transforming growth factor, beta receptor III
G08	Rn.12953	NM_001106907	Tgfbtrap1	Transforming growth factor, beta receptor associated protein 1
G09	Rn.154349	NM_001015020	Tgif1	TGFB-induced factor homeobox 1
G10	Rn.185771	NM_001013062	Thbs1	Thrombospondin 1
G11	Rn.83627	NM_145681	Tnfsf10	Tumor necrosis factor (ligand) superfamily, member 10
G12	Rn.3545	XM_001072618	Tsc2d1	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, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> SYBR Green ROX <sup>™</sup> FAST Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers	330620

\* Larger kit sizes available; please inquire.

RT<sup>2</sup> 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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

Trademarks: QIAGEN<sup>®</sup>, Rotor-Gene<sup>®</sup>, Rotor-Disc<sup>™</sup> (QIAGEN Group); ROX<sup>™</sup> (Applera Corporation or its subsidiaries); SYBR<sup>®</sup> (Molecular Probes, Inc.).

1067688 03/2011 © 2011 QIAGEN, all rights reserved.

[www.qiagen.com](http://www.qiagen.com)

Australia ■ 1-800-243-800

Austria ■ 0800/281010

Belgium ■ 0800-79612

Brazil ■ 0800-557779

Canada ■ 800-572-9613

China ■ 8621-3865-3865

Denmark ■ 80-885945

Finland ■ 0800-914416

France ■ 01-60-920-930

Germany ■ 02103-29-12000

Hong Kong ■ 800 933 965

Ireland ■ 1800 555 049

Italy ■ 800-787980

Japan ■ 03-6890-7300

Korea (South) ■ 080-000-7145

Luxembourg ■ 8002 2076

Mexico ■ 01-800-7742-436

The Netherlands ■ 0800 0229592

Norway ■ 800-18859

Singapore ■ 1800-742-4368

Spain ■ 91-630-7050

Sweden ■ 020-790282

Switzerland ■ 055-254-22-11

UK ■ 01293-422-911

USA ■ 800-426-8157



Sample & Assay Technologies