

# RT<sup>2</sup> Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

## Rat Angiogenic Growth Factors

Cat. no. 330231 PARN-072ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array, Format A	Applied Biosystems <sup>®</sup> models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad <sup>®</sup> models iCycler <sup>®</sup> , iQ™ 5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf <sup>®</sup> Mastercycler <sup>®</sup> ep realplex models 2, 2s, 4, 4s; Stratagene <sup>®</sup> models Mx3005P <sup>®</sup> , Mx3000P <sup>®</sup> ; Takara TP-800
RT <sup>2</sup> Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT <sup>2</sup> Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon <sup>®</sup> , DNA Engine Opticon 2; Stratagene Mx4000 <sup>®</sup>
RT <sup>2</sup> Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT <sup>2</sup> Profiler PCR Array, Format F	Roche <sup>®</sup> LightCycler <sup>®</sup> 480 (96-well block)
RT <sup>2</sup> Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT <sup>2</sup> Profiler PCR Array, Format H	Fluidigm <sup>®</sup> BioMark™



Sample & Assay Technologies

## Description

The Rat Angiogenic Growth Factors RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 growth factors and inhibitors related to angiogenesis. This array contains the growth factors, cytokines, and chemokines that promote the biogenesis of new blood vessels and the genes that encode inhibitors of this process. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to the promotion and inhibition of angiogenesis 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 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. RT<sup>2</sup> Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

For long term storage, keep plates at  $-20^{\circ}\text{C}$ .

**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.

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## Array layout (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT<sup>2</sup> Profiler PCR Array Handbook* for layout.

	1	2	3	4	5	6	7	8	9	10	11	12
<b>A</b>	Adams1	Aggf1	Amot	Angpt1	Angpt2	Angptl1	Angptl3	Angptl4	Bai1	Btg1	Cd55	Cd59
<b>B</b>	Cga	Chga	Cited1	Col18a1	Col4a3	Crhr2	Csf3	Cxcl10	Cxcl2	Cxcl5	Cxcl9	Egfl7
<b>C</b>	Erap1	Erb2	Ereg	Fgf1	Fgf2	Fn1	Foxm1	Foxo4	Fst	Glmn	Grrn	Hey1
<b>D</b>	Hey2	Hgf	Hpse	Ifna1	Ifnb1	Ifng	Il12a	Il12b	Kdr	Lep	LOC100360501	Mdk
<b>E</b>	Myocd	Ntrk2	Pdgfb	Pf4	Pgf	Plg	Ppbp	Pri	Pt17d1	Ptn	Ptpri	Qk
<b>F</b>	Rasa1	Rhob	Rnase4	Runx1	Serpinc1	Serpine1	Serpinf1	Shh	Smo	Tdgf1	Tgfa	Tgfb1
<b>G</b>	Thbs1	Tie1	Timp1	Timp2	Timp3	Timp4	Tnf	Tnni2	Tnni3	Vegfa	Wars2	Wt1
<b>H</b>	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	RTC	RTC	RTC	PPC	PPC	PPC

## Gene table: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Rn.7897	NM_024400	Adams1	ADAM metallopeptidase with thrombospondin type 1 motif, 1
A02	Rn.206414	XM_226709	Aggf1	Angiogenic factor with G patch and FHA domains 1
A03	Rn.99651	XM_235733	Amot	Angiomotin
A04	Rn.161953	NM_053546	Angpt1	Angiopoietin 1
A05	Rn.138360	NM_134454	Angpt2	Angiopoietin 2
A06	Rn.198951	NM_001109383	Angptl1	Angiopoietin-like 1
A07	Rn.11755	NM_001025065	Angptl3	Angiopoietin-like 3
A08	Rn.119611	NM_199115	Angptl4	Angiopoietin-like 4
A09	Rn.103502	XM_343260	Bai1	Brain-specific angiogenesis inhibitor 1
A10	Rn.1000	NM_017258	Btg1	B-cell translocation gene 1, anti-proliferative
A11	Rn.18841	NM_022269	Cd55	Cd55 molecule
A12	Rn.1231	NM_012925	Cd59	CD59 molecule, complement regulatory protein
B01	Rn.10589	NM_053918	Cga	Glycoprotein hormones, alpha polypeptide
B02	Rn.41024	NM_021655	Chga	Chromogranin A
B03	Rn.8163	NM_172055	Cited1	Cbp/p300-interacting transactivator with Glu/Asp-rich carboxy-terminal domain 1
B04	Rn.12030	XM_241632	Col18a1	Collagen, type XVIII, alpha 1
B05	Rn.121139	NM_001135759	Col4a3	Collagen, type IV, alpha 3
B06	Rn.10023	NM_022714	Crhr2	Corticotropin releasing hormone receptor 2
B07	Rn.53973	NM_017104	Csf3	Colony stimulating factor 3 (granulocyte)
B08	Rn.10584	NM_139089	Cxcl10	Chemokine (C-X-C motif) ligand 10
B09	Rn.10230	NM_053647	Cxcl2	Chemokine (C-X-C motif) ligand 2
B10	Rn.44449	NM_022214	Cxcl5	Chemokine (C-X-C motif) ligand 5
B11	Rn.7391	NM_145672	Cxcl9	Chemokine (C-X-C motif) ligand 9
B12	Rn.144669	NM_139104	Egfl7	EGF-like-domain, multiple 7
C01	Rn.22516	NM_030836	Erap1	Endoplasmic reticulum aminopeptidase 1
C02	Rn.93966	NM_017003	Erb2	V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
C03	Rn.42897	NM_021689	Ereg	Epiregulin
C04	Rn.88013	NM_012846	Fgf1	Fibroblast growth factor 1
C05	Rn.31808	NM_019305	Fgf2	Fibroblast growth factor 2
C06	Rn.1604	NM_019143	Fn1	Fibronectin 1
C07	Rn.10665	NM_031633	Foxm1	Forkhead box M1
C08	Rn.19646	NM_001106943	Foxo4	Forkhead box O4
C09	Rn.162557	NM_012561	Fst	Follistatin
C10	Rn.44333	NM_001105993	Glmn	Glomulin, FKBP associated protein
C11	Rn.5820	NM_017113	Grrn	Granulin
C12	Rn.98202	XM_342216	Hey1	Hairy/enhancer-of-split related with YRPW motif 1
D01	Rn.58672	NM_130417	Hey2	Hairy/enhancer-of-split related with YRPW motif 2
D02	Rn.10468	NM_017017	Hgf	Hepatocyte growth factor
D03	Rn.6392	NM_022605	Hpse	Heparanase
D04	Rn.196548	NM_001014786	Ifna1	Interferon-alpha 1
D05	Rn.138105	NM_019127	Ifnb1	Interferon beta 1, fibroblast

Position	UniGene	GenBank	Symbol	Description
D06	Rn.10795	NM_138880	Ifng	Interferon gamma
D07	Rn.207199	NM_053390	Il12a	Interleukin 12a
D08	Rn.48686	NM_022611	Il12b	Interleukin 12b
D09	Rn.88869	NM_013062	Kdr	Kinase insert domain receptor
D10	Rn.44444	NM_013076	Lep	Leptin
D11	Rn.3756	NM_139105	LOC100360501	Ribonuclease inhibitor-like
D12	Rn.17447	NM_030859	Mdk	Midkine
E01	Rn.163103	NM_182667	Myocd	Myocardin
E02	Rn.11246	NM_012731	Ntrk2	Neurotrophic tyrosine kinase, receptor, type 2
E03	Rn.198230	NM_031524	Pdgfb	Platelet-derived growth factor beta polypeptide (simian sarcoma viral (v-sis) oncogene homolog)
E04	Rn.6800	NM_001007729	Pf4	Platelet factor 4
E05	Rn.6960	NM_053595	Pgf	Placental growth factor
E06	Rn.20178	NM_053491	Plg	Plasminogen
E07	Rn.67082	NM_153721	Pbbp	Pro-platelet basic protein (chemokine (C-X-C motif) ligand 7)
E08	Rn.9759	NM_012629	Prl	Prolactin
E09	Rn.15366	NM_053364	Prl7d1	Prolactin family 7, subfamily d, member 1
E10	Rn.1653	NM_017066	Ptn	Pleiotrophin
E11	Rn.10278	NM_017269	Ptpri	Protein tyrosine phosphatase, receptor type, J
E12	Rn.85462	NM_001115021	Qk	Quaking
F01	Rn.12223	NM_013135	Rasa1	RAS p21 protein activator (GTPase activating protein) 1
F02	Rn.2042	NM_022542	Rhob	Ras homolog gene family, member B
F03	Rn.1742	NM_020082	Rnase4	Ribonuclease, RNase A family 4
F04	Rn.11201	NM_017325	Runx1	Runt-related transcription factor 1
F05	Rn.204806	NM_001012027	Serpinc1	Serpin peptidase inhibitor, clade C (antithrombin), member 1
F06	Rn.29367	NM_012620	Serpine1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F07	Rn.16993	NM_177927	Serpinf1	Serpin peptidase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), member 1
F08	Rn.10432	NM_017221	Shh	Sonic hedgehog
F09	Rn.44429	NM_012807	Smo	Smoothed homolog (Drosophila)
F10	N/A	XM_001056317	Tdgf1	Teratocarcinoma-derived growth factor 1
F11	Rn.9952	NM_012671	Tgfa	Transforming growth factor alpha
F12	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G01	Rn.185771	NM_001013062	Thbs1	Thrombospondin 1
G02	Rn.13171	NM_053545	Tie1	Tyrosine kinase with immunoglobulin-like and EGF-like domains 1
G03	Rn.25754	NM_053819	Timp1	TIMP metalloproteinase inhibitor 1
G04	Rn.10161	NM_021989	Timp2	TIMP metalloproteinase inhibitor 2
G05	Rn.119634	NM_012886	Timp3	TIMP metalloproteinase inhibitor 3
G06	Rn.155651	NM_001109393	Timp4	Tissue inhibitor of metalloproteinase 4
G07	Rn.2275	NM_012675	Tnf	Tumor necrosis factor (TNF superfamily, member 2)
G08	Rn.9924	NM_017185	Tnni2	Troponin I type 2 (skeletal, fast)
G09	Rn.64141	NM_017144	Tnni3	Troponin I type 3 (cardiac)
G10	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
G11	Rn.204847	NM_001168641	Wars2	Tryptophanyl tRNA synthetase 2 (mitochondrial)
G12	Rn.92531	NM_031534	Wt1	Wilms tumor 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 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 <sup>2</sup> 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 <sup>2</sup> 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.

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.

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