

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

## Human Angiogenesis

Cat. no. 330231 PAHS-024ZR

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 Human Angiogenesis RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes involved in modulating the biological processes of angiogenesis. The array includes growth factors and their receptors, chemokines and cytokines, matrix and adhesion molecules, proteases and their inhibitors, as well as transcription factors, all involved in the development of new blood vessels. Angiogenesis is a hallmark in the pathology of many diseases, including cancer, ischemia, atherosclerosis, and inflammatory diseases. Angiogenesis plays additional roles in normal development and physiological processes in adults, including wound healing and tissue regeneration. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to 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 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.



## 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	Hs.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A02	Hs.283749	NM_001145	ANG	Angiogenin, ribonuclease, RNase A family, 5
A03	Hs.369675	NM_001146	ANGPT1	Angiopoietin 1
A04	Hs.583870	NM_001147	ANGPT2	Angiopoietin 2
A05	Hs.9613	NM_001039667	ANGPTL4	Angiopoietin-like 4
A06	Hs.1239	NM_001150	ANPEP	Alanyl (membrane) aminopeptidase
A07	Hs.194654	NM_001702	BAI1	Brain-specific angiogenesis inhibitor 1
A08	Hs.54460	NM_002986	CCL11	Chemokine (C-C motif) ligand 11
A09	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2
A10	Hs.76206	NM_001795	CDH5	Cadherin 5, type 2 (vascular endothelium)
A11	Hs.517356	NM_030582	COL18A1	Collagen, type XVIII, alpha 1
A12	Hs.570065	NM_000091	COL4A3	Collagen, type IV, alpha 3 (Goodpasture antigen)
B01	Hs.591346	NM_001901	CTGF	Connective tissue growth factor
B02	Hs.789	NM_001511	CXCL1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
B03	Hs.632586	NM_001565	CXCL10	Chemokine (C-X-C motif) ligand 10
B04	Hs.89714	NM_002994	CXCL5	Chemokine (C-X-C motif) ligand 5
B05	Hs.164021	NM_002993	CXCL6	Chemokine (C-X-C motif) ligand 6 (granulocyte chemotactic protein 2)
B06	Hs.77367	NM_002416	CXCL9	Chemokine (C-X-C motif) ligand 9
B07	Hs.511899	NM_001955	EDN1	Endothelin 1
B08	Hs.516664	NM_182685	EFNA1	Ephrin-A1
B09	Hs.149239	NM_004093	EFNB2	Ephrin-B2
B10	Hs.419815	NM_001963	EGF	Epidermal growth factor
B11	Hs.76753	NM_000118	ENG	Endoglin
B12	Hs.437008	NM_004444	EPHB4	EPH receptor B4
C01	Hs.446352	NM_004448	ERBB2	V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
C02	Hs.62192	NM_001993	F3	Coagulation factor III (thromboplastin, tissue factor)
C03	Hs.483635	NM_000800	FGF1	Fibroblast growth factor 1 (acidic)
C04	Hs.284244	NM_002006	FGF2	Fibroblast growth factor 2 (basic)
C05	Hs.1420	NM_000142	FGFR3	Fibroblast growth factor receptor 3
C06	Hs.11392	NM_004469	FIGF	C-fos induced growth factor (vascular endothelial growth factor D)
C07	Hs.654360	NM_002019	FLT1	Fms-related tyrosine kinase 1 (vascular endothelial growth factor/vascular permeability factor receptor)
C08	Hs.203717	NM_002026	FN1	Fibronectin 1
C09	Hs.396530	NM_000601	HGF	Hepatocyte growth factor (hepapoietin A; scatter factor)
C10	Hs.597216	NM_001530	HIF1A	Hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)
C11	Hs.44227	NM_006665	HPSE	Heparanase
C12	Hs.504609	NM_002165	ID1	Inhibitor of DNA binding 1, dominant negative helix-loop-helix protein
D01	Hs.37026	NM_024013	IFNA1	Interferon, alpha 1
D02	Hs.856	NM_000619	IFNG	Interferon, gamma
D03	Hs.160562	NM_000618	IGF1	Insulin-like growth factor 1 (somatomedin C)
D04	Hs.126256	NM_000576	IL1B	Interleukin 1, beta
D05	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
D06	Hs.624	NM_000584	IL8	Interleukin 8
D07	Hs.436873	NM_002210	ITGAV	Integrin, alpha V (vitronectin receptor, alpha polypeptide, antigen CD51)
D08	Hs.218040	NM_000212	ITGB3	Integrin, beta 3 (platelet glycoprotein IIIa, antigen CD61)
D09	Hs.728907	NM_000214	JAG1	Jagged 1
D10	Hs.479756	NM_002253	KDR	Kinase insert domain receptor (a type III receptor tyrosine kinase)
D11	Hs.421391	NM_007015	LECT1	Leukocyte cell derived chemotaxin 1
D12	Hs.194236	NM_000230	LEP	Leptin
E01	Hs.82045	NM_002391	MDK	Midkine (neurite growth-promoting factor 2)
E02	Hs.2399	NM_004995	MMP14	Matrix metalloproteinase 14 (membrane-inserted)
E03	Hs.513617	NM_004530	MMP2	Matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)
E04	Hs.297413	NM_004994	MMP9	Matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)

Position	UniGene	GenBank	Symbol	Description
E05	Hs.707978	NM_000603	NOS3	Nitric oxide synthase 3 (endothelial cell)
E06	Hs.436100	NM_004557	NOTCH4	Notch 4
E07	Hs.131704	NM_003873	NRP1	Neuropilin 1
E08	Hs.471200	NM_003872	NRP2	Neuropilin 2
E09	Hs.535898	NM_002607	PDGFA	Platelet-derived growth factor alpha polypeptide
E10	Hs.514412	NM_000442	PECAM1	Platelet/endothelial cell adhesion molecule
E11	Hs.81564	NM_002619	PF4	Platelet factor 4
E12	Hs.252820	NM_002632	PGF	Placental growth factor
F01	Hs.77274	NM_002658	PLAU	Plasminogen activator, urokinase
F02	Hs.143436	NM_000301	PLG	Plasminogen
F03	Hs.528665	NM_021935	PROK2	Prokineticin 2
F04	Hs.201978	NM_000962	PTGS1	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)
F05	Hs.154210	NM_001400	S1PR1	Sphingosine-1-phosphate receptor 1
F06	Hs.414795	NM_000602	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F07	Hs.532768	NM_002615	SERPINF1	Serpin peptidase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), member 1
F08	Hs.68061	NM_021972	SPHK1	Sphingosine kinase 1
F09	Hs.89640	NM_000459	TEK	TEK tyrosine kinase, endothelial
F10	Hs.170009	NM_003236	TGFA	Transforming growth factor, alpha
F11	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
F12	Hs.133379	NM_003238	TGFB2	Transforming growth factor, beta 2
G01	Hs.494622	NM_004612	TGFBR1	Transforming growth factor, beta receptor 1
G02	Hs.164226	NM_003246	THBS1	Thrombospondin 1
G03	Hs.371147	NM_003247	THBS2	Thrombospondin 2
G04	Hs.78824	NM_005424	TIE1	Tyrosine kinase with immunoglobulin-like and EGF-like domains 1
G05	Hs.522632	NM_003254	TIMP1	TIMP metalloproteinase inhibitor 1
G06	Hs.633514	NM_003255	TIMP2	TIMP metalloproteinase inhibitor 2
G07	Hs.644633	NM_000362	TIMP3	TIMP metalloproteinase inhibitor 3
G08	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G09	Hs.592212	NM_001953	TYMP	Thymidine phosphorylase
G10	Hs.73793	NM_003376	VEGFA	Vascular endothelial growth factor A
G11	Hs.78781	NM_003377	VEGFB	Vascular endothelial growth factor B
G12	Hs.435215	NM_005429	VEGFC	Vascular endothelial growth factor C
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, 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™ 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.

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