

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

Dog Angiogenesis

Cat. no. 330231 PAFD-024ZA

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™



Description

The Dog Angiogenesis RT² 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 *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 cyclers (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	AKT1	ANG	ANGPT1	ANGPT2	ANGPTL4	ANPEP	ADGRB1	CCL2	CDH5	COL18A1	COL4A3	CSF3
B	CXCL10	CXCL5	EDN1	EFNA1	EFNB2	EGF	ENG	EPAS1	EPHB4	ERBB2	F2	F3
C	FGF1	FGF2	FGF6	FGFR3	FIGF	FLT1	FN1	HGF	HIF1A	HPSE	ID1	IFNB1
D	IFNG	IGF1	IL1B	IL6	CXCL8	ITGAV	ITGB3	JAG1	KDR	LECT1	LEP	CTGF
E	PROK2	MMP14	MMP2	MMP9	NOS3	NOTCH4	NRP1	NRP2	PDGFA	PDGFB	PECAM1	PGF
F	PLAU	PLG	PTGS1	S1PR1	SERPINE1	SERPINF1	SPHK1	TEK	TGFA	TGFB1	TGFB2	TGFB3
G	TGFBR1	THBS1	THBS2	TIE1	TIMP1	TIMP2	TIMP3	TNF	TNFSF12	VEGFA	VEGFB	VEGFC
H	ACTB	B2M	GAPDH	HPRT1	RPLP1	FGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	N/A	XM_005623876	AKT1	V-akt murine thymoma viral oncogene homolog 1
A02	N/A	XM_005642443	ANG	Angiogenin, ribonuclease, RNase A family, 5
A03	Cfa.3523	NM_001005754	ANGPT1	Angiopoietin 1
A04	Cfa.13296	NM_001048126	ANGPT2	Angiopoietin 2
A05	N/A	XM_005633225	ANGPTL4	Angiopoietin-like 4
A06	Cfa.3774	NM_001146034	ANPEP	Alanyl (membrane) aminopeptidase
A07	N/A	XM_014118728	ADGRB1	Brain-specific angiogenesis inhibitor 1
A08	Cfa.3851	NM_001003297	CCL2	Chemokine (C-C motif) ligand 2
A09	N/A	XM_546894	CDH5	Cadherin 5, type 2 (vascular endothelium)
A10	N/A	XM_014109869	COL18A1	Collagen, type XVIII, alpha 1
A11	Cfa.3705	XM_005635768	COL4A3	Collagen, type IV, alpha 3 (Goodpasture antigen)
A12	N/A	XM_005624543	CSF3	Colony stimulating factor 3 (granulocyte)
B01	Cfa.16590	NM_001010949	CXCL10	Chemokine (C-X-C motif) ligand 10
B02	N/A	XM_849650	CXCL5	Chemokine (C-X-C motif) ligand 5
B03	Cfa.125	NM_001002956	EDN1	Endothelin 1
B04	N/A	XM_005622754	EFNA1	Ephrin-A1
B05	Cfa.17373	NM_001114296	EFNB2	Ephrin-B2
B06	Cfa.3524	NM_001003094	EGF	Epidermal growth factor
B07	N/A	XM_005625330	ENG	Endoglin
B08	N/A	XM_005626080	EPAS1	Endothelial PAS domain protein 1
B09	N/A	XM_546948	EPHB4	EPH receptor B4
B10	Cfa.3747	NM_001003217	ERBB2	V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
B11	N/A	XM_003639694	F2	Coagulation factor II (thrombin)
B12	Cfa.24096	NM_001024640	F3	Coagulation factor III (thromboplastin, tissue factor)

Position	UniGene	GenBank	Symbol	Description
C01	N/A	XM_014108102	FGF1	Fibroblast growth factor 1 (acidic)
C02	Cfa.3716	XM_003432481	FGF2	Fibroblast growth factor 2 (basic)
C03	N/A	XM_005637275	FGF6	Fibroblast growth factor 6
C04	N/A	XM_005618527	FGFR3	Fibroblast growth factor receptor 3
C05	N/A	XM_548869	FIGF	C-fos induced growth factor (vascular endothelial growth factor D)
C06	Cfa.33595	XM_534520	FLT1	Fms-related tyrosine kinase 1 (vascular endothelial growth factor/vascular permeability factor receptor)
C07	Cfa.47867	XM_014110981	FN1	Fibronectin 1
C08	Cfa.3443	NM_001002964	HGF	Hepatocyte growth factor (hepapoietin A; scatter factor)
C09	Cfa.126	NM_001287163	HIF1A	Hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)
C10	N/A	XM_845815	HPSE	Heparanase
C11	N/A	XM_847117	ID1	Inhibitor of DNA binding 1, dominant negative helix-loop-helix protein
C12	Cfa.47521	NM_001135787	IFNB1	Interferon, beta 1, fibroblast
D01	Cfa.3900	NM_001003174	IFNG	Interferon gamma
D02	Cfa.3888	NM_001313855	IGF1	Insulin-like growth factor 1 (somatomedin C)
D03	Cfa.33592	NM_001037971	IL1B	Interleukin 1, beta
D04	Cfa.3528	NM_001003301	IL6	Interleukin 6 (interferon, beta 2)
D05	Cfa.3510	NM_001003200	CXCL8	Interleukin 8
D06	N/A	XM_014110784	ITGAV	Integrin, alpha V (vitronectin receptor, alpha polypeptide, antigen CD51)
D07	Cfa.3641	NM_001003162	ITGB3	Integrin, beta 3 (platelet glycoprotein IIIa, antigen CD61)
D08	N/A	XM_005634783	JAG1	Jagged 1
D09	Cfa.24332	NM_001048024	KDR	Kinase insert domain receptor (a type III receptor tyrosine kinase)
D10	N/A	XM_846901	LECT1	Leukocyte cell derived chemotaxin 1
D11	Cfa.3476	NM_001003070	LEP	Leptin
D12	N/A	XM_003638769	CTGF	Connective tissue growth factor-like
E01	N/A	XM_014121546	PROK2	Prokineticin 2
E02	Cfa.3690	XM_851854	MMP14	Matrix metalloproteinase 14 (membrane-inserted)
E03	Cfa.3597	XM_014109407	MMP2	Matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)
E04	Cfa.3470	NM_001003219	MMP9	Matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)
E05	Cfa.108	NM_001003158	NOS3	Nitric oxide synthase 3 (endothelial cell)
E06	N/A	XM_014118241	NOTCH4	Notch 4
E07	N/A	XM_003638876	NRP1	Neuropilin 1
E08	N/A	XM_005640571	NRP2	Neuropilin 2
E09	Cfa.36580	NM_001190172	PDGFA	Platelet-derived growth factor alpha polypeptide
E10	Cfa.3913	NM_001003383	PDGFB	Platelet-derived growth factor beta polypeptide
E11	N/A	XM_848326	PECAM1	Platelet/endothelial cell adhesion molecule
E12	N/A	XM_849639	PGF	Placental growth factor
F01	Cfa.127	NM_001194952	PLAU	Plasminogen activator, urokinase
F02	Cfa.3464	NM_001286960	PLG	Plasminogen
F03	Cfa.61	NM_001003023	PTGS1	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)

Position	UniGene	GenBank	Symbol	Description
F04	N/A	XM_005621856	S1PR1	Sphingosine-1-phosphate receptor 1
F05	Cfa.109	NM_001197095	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F06	Cfa.4903	NM_001077588	SERPINF1	Serpin peptidase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), member 1
F07	N/A	XM_005624054	SPHK1	Sphingosine kinase 1
F08	Cfa.3578	XM_005626696	TEK	TEK tyrosine kinase, endothelial
F09	Cfa.133	XM_014117458	TGFA	Transforming growth factor, alpha
F10	Cfa.3509	NM_001003309	TGFB1	Transforming growth factor, beta 1
F11	Cfa.3367	XM_545713	TGFB2	Transforming growth factor, beta 2
F12	Cfa.24656	XM_849026	TGFB3	Transforming growth factor, beta 3
G01	N/A	XM_014117881	TGFBR1	Transforming growth factor, beta receptor 1
G02	N/A	XM_544610	THBS1	Thrombospondin 1
G03	Cfa.12249	NM_001197156	THBS2	Thrombospondin 2
G04	N/A	XM_539652	TIE1	Tyrosine kinase with immunoglobulin-like and EGF-like domains 1
G05	Cfa.3680	NM_001003182	TIMP1	TIMP metalloproteinase inhibitor 1
G06	Cfa.3497	NM_001003082	TIMP2	TIMP metalloproteinase inhibitor 2
G07	Cfa.39892	NM_001284439	TIMP3	TIMP metalloproteinase inhibitor 3
G08	Cfa.54	NM_001003244	TNF	Tumor necrosis factor
G09	Cfa.48842	NM_001205168	TNFSF12	Tumor necrosis factor (ligand) superfamily, member 12
G10	Cfa.3581	NM_001110502	VEGFA	Vascular endothelial growth factor A
G11	N/A	XM_003432332	VEGFB	Similar to vascular endothelial growth factor B
G12	N/A	XM_540047	VEGFC	Vascular endothelial growth factor C
H01	Cfa.17735	NM_001195845	ACTB	Actin, beta
H02	N/A	XM_535458	B2M	Beta-2-microglobulin
H03	Cfa.36213	NM_001003142	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Cfa.4551	NM_001003357	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	N/A	XM_014109387	RPLP1	Ribosomal protein, large, P1
H06	N/A	SA_00130	FGDC	Dog 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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