

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

Dog Wound Healing

Cat. no. 330231 PAFD-121Z

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 Wound Healing RT² Profiler PCR Array profiles the expression of 84 key genes central to the wound healing response. Wound healing progresses via three overlapping phases: inflammation, granulation and tissue remodeling. After cutaneous injury, a blood clot forms, and inflammatory cells infiltrate the wound, secreting cytokines and growth factors to promote the inflammation phase. During the granulation phase, fibroblasts and other cells differentiate into myofibroblasts, which deposit extracellular matrix (ECM) proteins. Simultaneously, angiogenesis occurs, and keratinocytes proliferate and migrate to close the wound. In the final tissue remodeling phase, apoptosis eliminates myofibroblasts and extraneous blood vessels, and the ECM is remodeled to resemble the original tissue. Dysregulation of this last tissue remodeling phase leads to fibrosis.

This array contains genes important for each of the three phases of wound healing, including ECM remodeling factors, inflammatory cytokines and chemokines, as well as growth factors and major signaling molecules. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in wound healing, tissue injury and repair 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	ACTA2	ACTC1	ANGPT1	CCL2	CCL7	CD40LG	CDH1	COL14A1	COL1A1	COL1A2	COL3A1	COL4A1
B	COL4A3	COL5A1	COL5A2	COL5A3	CSF2	CSF3	CTGF	CTNNB1	CTSG	CTSK	CXCL11	CXCL12
C	CXCL5	DCN	EGF	EGFR	F13A1	F3	FGA	FGF10	FGF2	FGF7	HBEGF	HGF
D	IFNG	IGF1	IL10	IL1B	IL2	IL4	IL6	IL6ST	ITGA1	ITGA2	ITGA3	ITGA4
E	ITGA5	ITGA6	ITGAV	ITGB1	ITGB3	ITGB5	ITGB6	LIF	MAPK1	MAPK3	MMP1	MMP2
F	MMP7	MMP9	PDGFA	PLAT	PLAU	PLAUR	PLG	PTEN	PTGS2	RAC1	RHOA	SERPINE1
G	STAT3	TAGLN	TGFA	TGFB1	TGFB3	TIAM1	TIMP1	TNF	VEGFA	VTN	WISP1	WNT5A
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_534781	ACTA2	Actin, alpha 2, smooth muscle, aorta
A02	N/A	XM_535424	ACTC1	Actin, alpha, cardiac muscle 1
A03	Cfa.3523	NM_001005754	ANGPT1	Angiopoietin 1
A04	Cfa.3851	NM_001003297	CCL2	Chemokine (C-C motif) ligand 2
A05	Cfa.16337	NM_001010960	CCL7	Chemokine (C-C motif) ligand 7
A06	Cfa.179	NM_001002981	CD40LG	CD40 ligand
A07	Cfa.3488	NM_001287125	CDH1	Cadherin 1, type 1, E-cadherin (epithelial)
A08	N/A	XM_005627893	COL14A1	Collagen, type XIV, alpha 1
A09	Cfa.100	NM_001003090	COL1A1	Collagen, type I, alpha 1
A10	Cfa.1262	NM_001003187	COL1A2	Collagen, type I, alpha 2
A11	Cfa.3093	XM_845916	COL3A1	Collagen, type III, alpha 1
A12	Cfa.208	XM_014106444	COL4A1	Collagen, type IV, alpha 1
B01	Cfa.3705	XM_005635768	COL4A3	Collagen, type IV, alpha 3 (Goodpasture antigen)
B02	N/A	XM_014116870	COL5A1	Collagen, type V, alpha 1
B03	N/A	XM_005640393	COL5A2	Collagen, type V, alpha 2
B04	N/A	XM_014122206	COL5A3	Collagen, type V, alpha 3
B05	Cfa.3784	NM_001003245	CSF2	Colony stimulating factor 2 (granulocyte-macrophage)
B06	N/A	XM_005624543	CSF3	Colony stimulating factor 3 (granulocyte)
B07	N/A	XM_003638769	CTGF	Connective tissue growth factor-like
B08	Cfa.415	NM_001137652	CTNNB1	Catenin (cadherin-associated protein), beta 1, 88kDa
B09	Cfa.23853	XM_845595	CTSG	Cathepsin G
B10	Cfa.588	NM_001033996	CTSK	Cathepsin K
B11	N/A	XM_003640114	CXCL11	Chemokine (C-X-C motif) ligand 11
B12	Cfa.47274	NM_001128097	CXCL12	Chemokine (C-X-C motif) ligand 12
C01	N/A	XM_849650	CXCL5	Chemokine (C-X-C motif) ligand 5
C02	Cfa.3762	NM_001003228	DCN	Decorin
C03	Cfa.3524	NM_001003094	EGF	Epidermal growth factor
C04	Cfa.3903	XM_014120756	EGFR	Epidermal growth factor receptor
C05	N/A	XM_535876	F13A1	Coagulation factor XIII, A1 polypeptide
C06	Cfa.24096	NM_001024640	F3	Coagulation factor III (thromboplastin, tissue factor)
C07	N/A	XM_532697	FGA	Fibrinogen alpha chain
C08	N/A	XM_005619337	FGF10	Fibroblast growth factor 10
C09	Cfa.3716	XM_003432481	FGF2	Fibroblast growth factor 2 (basic)
C10	Cfa.3776	NM_001003237	FGF7	Fibroblast growth factor 7
C11	N/A	XM_005617276	HBEGF	Heparin-binding EGF-like growth factor
C12	Cfa.3443	NM_001002964	HGF	Hepatocyte growth factor (hepapoietin A; scatter factor)
D01	Cfa.3900	NM_001003174	IFNG	Interferon gamma
D02	Cfa.3888	NM_001313855	IGF1	Insulin-like growth factor 1 (somatomedin C)
D03	Cfa.38	NM_001003077	IL10	Interleukin 10
D04	Cfa.33592	NM_001037971	IL1B	Interleukin 1, beta
D05	Cfa.7	NM_001003305	IL2	Interleukin 2
D06	Cfa.39	NM_001003159	IL4	Interleukin 4
D07	Cfa.3528	NM_001003301	IL6	Interleukin 6 (interferon, beta 2)
D08	Cfa.19690	NM_001287021	IL6ST	Interleukin 6 signal transducer (gp130, oncostatin M receptor)
D09	N/A	XM_005619335	ITGA1	Integrin, alpha 1

Position	UniGene	GenBank	Symbol	Description
D10	N/A	XM_005619334	ITGA2	Integrin, alpha 2 (CD49B, alpha 2 subunit of VLA-2 receptor)
D11	N/A	XM_005624631	ITGA3	Similar to integrin alpha 3 isoform b, precursor
D12	N/A	XM_545551	ITGA4	Integrin, alpha 4 (antigen CD49D, alpha 4 subunit of VLA-4 receptor)
E01	N/A	XM_005636739	ITGA5	Integrin, alpha 5 (fibronectin receptor, alpha polypeptide)
E02	N/A	XM_535964	ITGA6	Integrin, alpha 6
E03	N/A	XM_014110784	ITGAV	Integrin, alpha V (vitronectin receptor, alpha polypeptide, antigen CD51)
E04	N/A	XM_005616948	ITGB1	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)
E05	Cfa.3641	NM_001003162	ITGB3	Integrin, beta 3 (platelet glycoprotein IIIa, antigen CD61)
E06	N/A	XM_846152	ITGB5	Integrin, beta 5
E07	N/A	XM_005640230	ITGB6	Integrin, beta 6
E08	Cfa.150	NM_001197073	LIF	Leukemia inhibitory factor (cholinergic differentiation factor)
E09	Cfa.2796	NM_001110800	MAPK1	Mitogen-activated protein kinase 1
E10	Cfa.33452	NM_001252035	MAPK3	Mitogen-activated protein kinase 3
E11	N/A	XM_546546	MMP1	Matrix metalloproteinase 1 (interstitial collagenase)
E12	Cfa.3597	XM_014109407	MMP2	Matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)
F01	Cfa.22342	NM_001242726	MMP7	Matrix metalloproteinase 7 (matrilysin, uterine)
F02	Cfa.3470	NM_001003219	MMP9	Matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)
F03	Cfa.36580	NM_001190172	PDGFA	Platelet-derived growth factor alpha polypeptide
F04	N/A	XM_539955	PLAT	Plasminogen activator, tissue
F05	Cfa.127	NM_001194952	PLAU	Plasminogen activator, urokinase
F06	N/A	XM_014119989	PLAUR	Plasminogen activator, urokinase receptor
F07	Cfa.3464	NM_001286960	PLG	Plasminogen
F08	Cfa.3695	NM_001003192	PTEN	Phosphatase and tensin homolog
F09	Cfa.3449	NM_001003354	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
F10	Cfa.40290	NM_001003274	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
F11	Cfa.20231	NM_001003273	RHOA	Ras homolog gene family, member A
F12	Cfa.109	NM_001197095	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
G01	N/A	XM_548090	STAT3	Signal transducer and activator of transcription 3 (acute-phase response factor)
G02	N/A	XM_536561	TAGLN	Transgelin
G03	Cfa.133	XM_014117458	TGFA	Transforming growth factor, alpha
G04	Cfa.3509	NM_001003309	TGFB1	Transforming growth factor, beta 1
G05	N/A	XM_005621935	TGFBR3	Transforming growth factor, beta receptor III
G06	N/A	XM_005638821	TIAM1	T-cell lymphoma invasion and metastasis 1
G07	Cfa.3680	NM_001003182	TIMP1	TIMP metalloproteinase inhibitor 1
G08	Cfa.54	NM_001003244	TNF	Tumor necrosis factor
G09	Cfa.3581	NM_001110502	VEGFA	Vascular endothelial growth factor A
G10	N/A	XM_848947	VTN	Vitronectin
G11	N/A	XM_005628298	WISP1	WNT1 inducible signaling pathway protein 1
G12	Cfa.47426	NM_001287075	WNT5A	Wingless-type MMTV integration site family, member 5A
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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