

RT² Profiler PCR Array (Rotor-Gene® Format)

Dog Fibrosis

Cat. no. 330231 PAFD-120ZR

For pathway expression analysis

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

Description

The Dog Fibrosis RT² Profiler™ PCR Array profiles the expression of 84 key genes involved in dysregulated tissue remodeling during the repair and healing of wounds. Wound healing consists of three phases: inflammation, granulation and tissue remodeling. During tissue remodeling, apoptosis removes myofibroblasts, and the deposited extracellular matrix (ECM) is remodeled to resemble the original tissue. Fibrosis occurs when inappropriate tissue remodeling results in excess ECM deposition due to inappropriate survival of myofibroblasts or lack of ECM proteolytic degradation. The inflammation and enhanced TGFβ signaling often present in fibrotic tissues causes cells to differentiate into myofibroblasts via epithelial-to-mesenchymal transition (EMT). On the other side of the spectrum, chronic wounds feature dysregulated tissue remodeling with enhanced ECM degradation. This array contains genes encoding ECM remodeling enzymes, TGFβ signaling molecules and inflammatory cytokines, as well as additional genes important for fibrosis. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in fibrosis and chronic wounds with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.



Shipping and storage

RT² 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 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

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: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
1	N/A	XM_548413	ABL1	C-abl oncogene 1, non-receptor tyrosine kinase
2	N/A	XM_534781	ACTA2	Actin, alpha 2, smooth muscle, aorta
3	Cfa.3646	XM_005618833	AGT	Angiotensinogen (serpin peptidase inhibitor, clade A, member 8)
4	N/A	XM_005623876	AKT1	V-akt murine thymoma viral oncogene homolog 1
5	Cfa.110	NM_001002949	BCL2	B-cell CLL/lymphoma 2
6	Cfa.8	NM_001197052	BMP7	Bone morphogenetic protein 7
7	Cfa.3850	NM_001003296	CAV1	Caveolin 1, caveolae protein, 22kDa
8	Cfa.3851	NM_001003297	CCL2	Chemokine (C-C motif) ligand 2
9	Cfa.36214	NM_001005251	CCL3	Chemokine (C-C motif) ligand 3
10	N/A	XM_005632630	LOC484790	C-C motif chemokine receptor 2
11	N/A	XM_548131	CCR7	Chemokine (C-C motif) receptor 7
12	Cfa.1262	NM_001003187	COL1A2	Collagen, type I, alpha 2
13	Cfa.3093	XM_845916	COL3A1	Collagen, type III, alpha 1
14	N/A	XM_003434864	CREBBP	CREB binding protein
15	N/A	XM_003638769	CTGF	Connective tissue growth factor-like
16	Cfa.16645	NM_001048026	CXCR4	Chemokine (C-X-C motif) receptor 4
17	Cfa.3762	NM_001003228	DCN	Decorin
18	Cfa.125	NM_001002956	EDN1	Endothelin 1
19	Cfa.3524	NM_001003094	EGF	Epidermal growth factor
20	N/A	XM_005625330	ENG	Endoglin
21	Cfa.4547	NM_001287153	FASLG	Fas ligand (TNF superfamily, member 6)
22	N/A	XM_005638201	GREM1	Gremlin 1, DAN family BMP antagonist
23	Cfa.3443	NM_001002964	HGF	Hepatocyte growth factor (hepapoietin A; scatter factor)
24	Cfa.3900	NM_001003174	IFNG	Interferon gamma
25	Cfa.38	NM_001003077	IL10	Interleukin 10
26	Cfa.3566	NM_001003384	IL13	Interleukin 13
27	Cfa.40284	NM_001003075	IL13RA2	Interleukin 13 receptor, alpha 2
28	Cfa.3645	NM_001003157	IL1A	Interleukin 1, alpha
29	Cfa.33592	NM_001037971	IL1B	Interleukin 1, beta
30	Cfa.39	NM_001003159	IL4	Interleukin 4
31	Cfa.3486	NM_001006950	IL5	Interleukin 5 (colony-stimulating factor, eosinophil)
32	N/A	XM_534040	ILK	Integrin-linked kinase
33	N/A	XM_844366	INHBE	Inhibin, beta E
34	N/A	XM_005619335	ITGA1	Integrin, alpha 1
35	N/A	XM_005619334	ITGA2	Integrin, alpha 2 (CD49B, alpha 2 subunit of VLA-2 receptor)
36	N/A	XM_005624631	ITGA3	Similar to integrin alpha 3 isoform b, precursor
37	N/A	XM_014110784	ITGAV	Integrin, alpha V (vitronectin receptor, alpha polypeptide, antigen CD51)
38	N/A	XM_005616948	ITGB1	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)

Position	UniGene	GenBank	Symbol	Description
39	Cfa.3641	NM_001003162	ITGB3	Integrin, beta 3 (platelet glycoprotein IIIa, antigen CD61)
40	N/A	XM_846152	ITGB5	Integrin, beta 5
41	N/A	XM_005640230	ITGB6	Integrin, beta 6
42	N/A	XM_005628606	ITGB8	Integrin, beta 8
43	N/A	XM_005620245	JUN	Jun proto-oncogene
44	N/A	XM_538599	LOX	Lysyl oxidase
45	Cfa.23392	XM_005630317	LTBP1	Latent transforming growth factor beta binding protein 1
46	N/A	XM_546546	MMP1	Matrix metalloproteinase 1 (interstitial collagenase)
47	Cfa.3628	XM_536598	MMP13	Matrix metalloproteinase 13 (collagenase 3)
48	Cfa.3690	XM_851854	MMP14	Matrix metalloproteinase 14 (membrane-inserted)
49	Cfa.3597	XM_014109407	MMP2	Matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)
50	Cfa.3447	NM_001002967	MMP3	Matrix metalloproteinase 3 (stromelysin 1, progelatinase)
51	N/A	XM_546547	MMP8	Matrix metalloproteinase 8 (neutrophil collagenase)
52	Cfa.3470	NM_001003219	MMP9	Matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)
53	Cfa.3786	NM_001003246	MYC	V-myc myelocytomatosis viral oncogene homolog (avian)
54	Cfa.10766	NM_001003344	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
55	Cfa.36580	NM_001190172	PDGFA	Platelet-derived growth factor alpha polypeptide
56	Cfa.3913	NM_001003383	PDGFB	Platelet-derived growth factor beta polypeptide
57	N/A	XM_539955	PLAT	Plasminogen activator, tissue
58	Cfa.127	NM_001194952	PLAU	Plasminogen activator, urokinase
59	Cfa.3464	NM_001286960	PLG	Plasminogen
60	Cfa.5989	NM_001080109	SERPINA1	Serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 1
61	Cfa.109	NM_001197095	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
62	Cfa.6125	NM_001165888	SERPINH1	Serpin peptidase inhibitor, clade H (heat shock protein 47), member 1, (collagen binding protein 1)
63	N/A	XM_005622830	SMAD2	SMAD family member 2
64	Cfa.43487	NM_001170829	SMAD3	SMAD family member 3
65	N/A	XM_005615393	SMAD4	SMAD family member 4
66	N/A	XM_544737	SMAD6	SMAD family member 6
67	N/A	XM_005623131	SMAD7	SMAD family member 7
68	N/A	XM_005635167	SNAI1	Snail family zinc finger 1
69	N/A	XM_005636771	SP1	Sp1 transcription factor
70	N/A	XM_843260	STAT1	Signal transducer and activator of transcription 1, 91kDa
71	Cfa.47144	XM_003431442	STAT6	Signal transducer and activator of transcription 6, interleukin-4 induced
72	Cfa.3509	NM_001003309	TGFB1	Transforming growth factor, beta 1
73	Cfa.3367	XM_545713	TGFB2	Transforming growth factor, beta 2
74	Cfa.24656	XM_849026	TGFB3	Transforming growth factor, beta 3
75	N/A	XM_014117881	TGFBRI	Transforming growth factor, beta receptor 1
76	Cfa.128	XM_005634331	TGFBRII	Transforming growth factor, beta receptor II (70/80kDa)
77	N/A	XM_014115536	TGIF1	Similar to TG-interacting factor isoform c

Position	UniGene	GenBank	Symbol	Description
78	N/A	XM_544610	THBS1	Thrombospondin 1
79	Cfa.12249	NM_001197156	THBS2	Thrombospondin 2
80	Cfa.3680	NM_001003182	TIMP1	TIMP metalloproteinase inhibitor 1
81	Cfa.3497	NM_001003082	TIMP2	TIMP metalloproteinase inhibitor 2
82	Cfa.39892	NM_001284439	TIMP3	TIMP metalloproteinase inhibitor 3
83	Cfa.54	NM_001003244	TNF	Tumor necrosis factor
84	Cfa.3581	NM_001110502	VEGFA	Vascular endothelial growth factor A
85	Cfa.17735	NM_001195845	ACTB	Actin, beta
86	N/A	XM_535458	B2M	Beta-2-microglobulin
87	Cfa.36213	NM_001003142	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
88	Cfa.4551	NM_001003357	HPRT1	Hypoxanthine phosphoribosyltransferase 1
89	N/A	XM_014109387	RPLP1	Ribosomal protein, large, P1
90	N/A	SA_00130	FGDC	Dog Genomic DNA Contamination
91	N/A	SA_00104	RTC	Reverse Transcription Control
92	N/A	SA_00104	RTC	Reverse Transcription Control
93	N/A	SA_00104	RTC	Reverse Transcription Control
94	N/A	SA_00103	PPC	Positive PCR Control
95	N/A	SA_00103	PPC	Positive PCR Control
96	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 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.

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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