

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

Dog Oxidative Stress

Cat. no. 330231 PAFD-065ZA

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™



Sample & Assay Technologies

Description

The Dog Oxidative Stress RT² Profiler PCR Array profiles the expression of 84 genes related to oxidative stress. Peroxidases are represented on this array including glutathione peroxidases (GPx) and peroxiredoxins (TPx). Also included are the genes involved in reactive oxygen species (ROS) metabolism, such as oxidative stress responsive genes and genes involved in superoxide metabolism such as superoxide dismutases (SOD). A set of controls present on each array enables data analysis using the $\Delta\Delta\text{CT}$ method of relative quantification and assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably analyze expression of a focused panel of genes related to oxidative stress 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	ALB	LOC479476	AOX1P	APOE	ATOX1	BNIP3L	CAT	CCL5	CCS	CYBA	CYBB	CYGB
B	DHCR24	DUOX1	DUOX2	DUSP1	EPHX2	EPX	FOXN1	FTH1	GCLC	GCLM	GPX1	GPX2
C	GPX3	GPX5	GPX6	GPX7	GPX8	GSR	GSS	GSTP1	GSTZ1	GTF2I	HMOX1	KRT1
D	LOC1021556 97	BNIP3	MSRA	LPO	MB	MGST3	MPO	MPV17	NCF1	NCF2	NOS2	NOX4
E	NOX5	NQO1	NUDT1	OXR1	OXS1	PDLIM1	PNKP	PRDX1	PRDX2	PRDX3	PRDX4	PRDX5
F	PRDX6	PREX1	PRNP	PTGS1	PTGS2	PXDNL	SCARA3	SEPP1	SFTPD	SIRT2	SOD1	SOD2
G	SOD3	SQSTM1	SRXN1	STK25	TPO	TTN	TXNIP	TXNRD1	TXNRD2	TXNRD3	UCP2	VIMP
H	ACTB	B2M	GAPDH	HPRT1	RPLP1	FGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description	Assay
A01	Cfa.5991	NM_001003026	ALB	Albumin	PPF00137A
A02	N/A	XM_536613	LOC479476	Arachidonate 12-lipoxygenase	PPF04025A
A03	N/A	XM_845955	AOX1P	Aldehyde oxidase 1 pseudogene	PPF16712A
A04	Cfa.16211	XM_860950	APOE	Apolipoprotein E	PPF02053A
A05	Cfa.3577	NM_001003119	ATOX1	ATX1 antioxidant protein 1 homolog (yeast)	PPF00288A
A06	N/A	XM_845605	BNIP3L	BCL2/adenovirus E1B 19kDa interacting protein 3-like	PPF11939A
A07	Cfa.188	NM_001002984	CAT	Catalase	PPF00074A
A08	Cfa.21	NM_001003010	CCL5	Chemokine (C-C motif) ligand 5	PPF00117A
A09	Cfa.4563	NM_001194970	CCS	Copper chaperone for superoxide dismutase	PPF00641A
A10	Cfa.20770	NM_001100290	CYBA	Cytochrome b-245, alpha polypeptide	PPF09835A
A11	Cfa.40704	NM_001100291	CYBB	Cytochrome b-245, beta polypeptide (chronic granulomatous disease)	PPF10994A
A12	Cfa.39091	NM_001077587	CYGB	Cytoglobin	PPF12274A
B01	N/A	XM_546693	DHCR24	24-dehydrocholesterol reductase	PPF09773A
B02	Cfa.3587	NM_001003122	DUOX1	Dual oxidase 1	PPF00295A
B03	Cfa.3586	XM_014109349	DUOX2	Dual oxidase 2	PPF00294A
B04	N/A	XM_014112785	DUSP1	Dual specificity phosphatase 1	PPF09488A
B05	N/A	XM_005635676	EPHX2	Epoxide hydrolase 2, cytoplasmic	PPF02679A
B06	N/A	XM_548229	EPX	Eosinophil peroxidase	PPF10688A
B07	N/A	XM_005637294	FOXN1	Forkhead box M1	PPF08185A
B08	Cfa.47833	NM_001003080	FTH1	Ferritin, heavy polypeptide 1	PPF00210A
B09	N/A	XM_847752	GCLC	Glutamate-cysteine ligase, catalytic subunit	PPF12482A
B10	N/A	XM_005621897	GCLM	Glutamate-cysteine ligase, modifier subunit	PPF13548A
B11	Cfa.4561	NM_001115119	GPX1	Glutathione peroxidase 1	PPF00617A
B12	Cfa.12202	NM_001115135	GPX2	Glutathione peroxidase 2 (gastrointestinal)	PPF04610A
C01	Cfa.40786	NM_001164454	GPX3	Glutathione peroxidase 3	PPF09528A
C02	Cfa.3743	NM_001003213	GPX5	Glutathione peroxidase 5 (epididymal androgen-related protein)	PPF00438A
C03	Cfa.48884	NM_001256320	GPX6	Glutathione peroxidase 6 (olfactory)	PPF15585A
C04	N/A	XM_005629410	GPX7	Glutathione peroxidase 7	PPF01335A
C05	Cfa.9669	NM_001252323	GPX8	Glutathione peroxidase 8 (putative)	PPF14389A
C06	N/A	XM_005629896	GSR	Glutathione reductase	PPF01505A
C07	Cfa.3089	XM_005634964	GSS	Glutathione synthetase	PPF00618A
C08	Cfa.26926	NM_001252167	GSTP1	Glutathione S-transferase pi 1	PPF18175A
C09	N/A	XM_005623704	GSTZ1	Glutathione transferase zeta 1	PPF10511A
C10	N/A	XM_005620945	GTF2I	General transcription factor Ii	PPF04190A
C11	Cfa.4568	NM_001194969	HMOX1	Heme oxygenase (decycling) 1	PPF00640A
C12	Cfa.10761	NM_001003392	KRT1	Keratin 1	PPF00652A
D01	N/A	XM_005627164	LOC102155 697	Heat shock 70 kDa protein 1-like	PPF18176A
D02	N/A	XM_844054	BNIP3	BCL2/adenovirus E1B 19 kDa protein-interacting protein 3-like	PPF11462A
D03	N/A	XM_014107567	MSRA	Methionine sulfoxide reductase A	PPF11745A
D04	N/A	XM_548231	LPO	Lactoperoxidase	PPF10690A
D05	N/A	XM_005625921	MB	Myoglobin	PPF12009A

Position	UniGene	GenBank	Symbol	Description	Assay
D06	Cfa.6276	NM_001252410	MGST3	Microsomal glutathione S-transferase 3	PPF18178A
D07	N/A	XM_847352	MPO	Myeloperoxidase	PPF12554A
D08	N/A	XM_005630257	MPV17	MpV17 mitochondrial inner membrane protein	PPF12994A
D09	N/A	XM_844481	NCF1	Neutrophil cytosolic factor 1	PPF11584A
D10	Cfa.2804	NM_001101832	NCF2	Neutrophil cytosolic factor 2	PPF04405A
D11	Cfa.45041	NM_001003186	NOS2	Nitric oxide synthase 2, inducible	PPF00389A
D12	N/A	XM_014122446	NOX4	NADPH oxidase 4	PPF07299A
E01	Cfa.47004	NM_001103218	NOX5	NADPH oxidase, EF-hand calcium binding domain 5	PPF08708A
E02	N/A	XM_848524	NQO1	NAD(P)H dehydrogenase, quinone 1	PPF12940A
E03	N/A	XM_547012	NUDT1	Nudix (nucleoside diphosphate linked moiety X)-type motif 1	PPF09986A
E04	N/A	XM_003431771	OXR1	Oxidation resistance 1	PPF05563A
E05	N/A	XM_005634251	OXSRI	Oxidative-stress responsive 1	PPF11627A
E06	N/A	XM_014108776	PDLIM1	PDZ and LIM domain 1	PPF02935A
E07	N/A	XM_005616288	PNKP	Polynucleotide kinase 3'-phosphatase	PPF06808A
E08	Cfa.4507	NM_001252165	PRDX1	Peroxiredoxin 1	PPF01356A
E09	N/A	XM_542042	PRDX2	Peroxiredoxin 2	PPF07162A
E10	Cfa.19049	NM_001256485	PRDX3	Peroxiredoxin 3	PPF14364A
E11	N/A	XM_548896	PRDX4	Peroxiredoxin 4	PPF10980A
E12	N/A	XM_005631542	PRDX5	Peroxiredoxin 5	PPF01798A
F01	N/A	XM_537190	PRDX6	Peroxiredoxin 6	PPF04426A
F02	N/A	XM_014106873	PREX1	Phosphatidylinositol-3,4,5-trisphosphate-dependent Rac exchange factor 1	PPF07720A
F03	Cfa.11313	NM_001013423	PRNP	Prion protein	PPF07634A
F04	Cfa.61	NM_001003023	PTGS1	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)	PPF00132A
F05	Cfa.3449	NM_001003354	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	PPF00599A
F06	N/A	XM_005637964	PXDNL	Peroxidasin homolog (Drosophila)-like	PPF08304A
F07	N/A	XM_543225	SCARA3	Scavenger receptor class A, member 3	PPF07821A
F08	Cfa.39216	NM_001115118	SEPP1	Selenoprotein P, plasma, 1	PPF03945A
F09	N/A	XM_546184	SFTPD	Surfactant protein D	PPF09454A
F10	N/A	XM_014120576	SIRT2	Sirtuin 2	PPF13665A
F11	Cfa.6360	NM_001003035	SOD1	Superoxide dismutase 1, soluble	PPF00146A
F12	N/A	XM_533463	SOD2	Superoxide dismutase 2, mitochondrial	PPF01939A
G01	N/A	XM_545973	SOD3	Superoxide dismutase 3, extracellular	PPF09342A
G02	N/A	XM_014117639	SQSTM1	Sequestosome 1	PPF14780A
G03	N/A	XM_014106862	SRXN1	Sulfiredoxin 1	PPF18177A
G04	Cfa.16005	NM_001286859	STK25	Serine/threonine-protein kinase 25	PPF13951A
G05	Cfa.20	NM_001003009	TPO	Thyroid peroxidase	PPF00116A
G06	N/A	XM_535981	TTN	Titin	PPF03597A
G07	N/A	XM_533037	TXNIP	Thioredoxin interacting protein	PPF01666A
G08	Cfa.32485	NM_001122673	TXNRD1	Thioredoxin reductase 1	PPF00812A
G09	N/A	XM_845088	TXNRD2	Thioredoxin reductase 2	PPF11767A
G10	Cfa.24396	NM_001122778	TXNRD3	Thioredoxin reductase 3	PPF06969A
G11	Cfa.93	NM_001003048	UCP2	Uncoupling protein 2 (mitochondrial, proton carrier)	PPF00160A
G12	Cfa.21389	NM_001114757	VIMP	Selenoprotein S	PPF11619A
H01	Cfa.17735	NM_001195845	ACTB	Actin, beta	PPF12880A
H02	N/A	XM_535458	B2M	Beta-2-microglobulin	PPF03253A
H03	Cfa.36213	NM_001003142	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase	PPF00328A
H04	Cfa.4551	NM_001003357	HPRT1	Hypoxanthine phosphoribosyltransferase 1	PPF00602A
H05	N/A	XM_014109387	RPLP1	Ribosomal protein, large, P1	PPF03305A
H06	N/A	SA_00130	FGDC	Dog Genomic DNA Contamination	PPF68934A
H07	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H08	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H09	N/A	SA_00104	RTC	Reverse Transcription Control	PPX63340A
H10	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H11	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A
H12	N/A	SA_00103	PPC	Positive PCR Control	PPX63339A

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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