

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

## Cow Oxidative Stress

Cat. no. 330231 PABT-065ZR

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 Cow Oxidative Stress RT<sup>2</sup> 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). Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to oxidative stress 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.

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## Gene table: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
1	Bt.106669	NM_180992	ALB	Albumin
2	Bt.92152	NM_001192336	ALOX12	Arachidonate 12-lipoxygenase
3	Bt.45005	NM_176668	AOX1	Aldehyde oxidase 1
4	Bt.34980	NM_173991	APOE	Apolipoprotein E
5	Bt.91138	NM_001130758	ATOX1	ATX1 antioxidant protein 1 homolog (yeast)
6	Bt.1411	NM_001076366	BNIP3	BCL2/adenovirus E1B 19kDa interacting protein 3
7	Bt.48925	NM_001035386	CAT	Catalase
8	Bt.552	NM_175827	CCL5	Chemokine (C-C motif) ligand 5
9	Bt.53065	NM_001046187	CCS	Copper chaperone for superoxide dismutase
10	Bt.4558	NM_174035	CYBB	Cytochrome b-245, beta polypeptide
11	Bt.35774	NM_001206720	CYGB	Cytoglobin
12	Bt.106930	NM_001103276	DHCR24	24-dehydrocholesterol reductase
13	Bt.61746	NM_001205674	DUOX1	Dual oxidase 1
14	N/A	XM_005201080	DUOX2	Dual oxidase 2
15	Bt.1658	NM_001046452	DUSP1	Dual specificity phosphatase 1
16	Bt.87687	NM_001075534	EPHX2	Epoxide hydrolase 2, cytoplasmic
17	N/A	XM_001249704	FOXM1	Forkhead box M1
18	Bt.5321	NM_174062	FTH1	Ferritin, heavy polypeptide 1
19	Bt.103678	NM_001083674	GCLC	Glutamate-cysteine ligase, catalytic subunit
20	Bt.20267	NM_001038143	GCLM	Glutamate-cysteine ligase, modifier subunit
21	Bt.4317	NM_174076	GPX1	Glutathione peroxidase 1
22	Bt.29621	NM_001163139	GPX2	Glutathione peroxidase 2
23	Bt.12916	NM_174077	GPX3	Glutathione peroxidase 3 (plasma)
24	Bt.49234	NM_174770	GPX4	Glutathione peroxidase 4 (phospholipid hydroperoxidase)
25	Bt.46904	NM_001025335	GPX5	Glutathione peroxidase 5 (epididymal androgen-related protein)
26	Bt.27962	NM_001163142	GPX6	Glutathione peroxidase 6
27	Bt.11662	NM_001101113	GPX7	Glutathione peroxidase 7
28	Bt.612	NM_001114190	GSR	Glutathione reductase
29	Bt.9056	NM_001015630	GSS	Glutathione synthetase
30	Bt.13949	NM_177516	GSTP1	Glutathione S-transferase pi 1
31	Bt.45287	NM_001075686	GSTZ1	Glutathione transferase zeta 1
32	Bt.10542	NM_001102177	GTF2I	General transcription factor Iii
33	Bt.4001	NM_001014912	HMOX1	Heme oxygenase (decycling) 1
34	Bt.49659	NM_174550	HSPA1A	Heat shock 70kDa protein 1A
35	N/A	XM_002695595	LOC788751	Eosinophil peroxidase
36	Bt.4784	NM_173933	LPO	Lactoperoxidase
37	Bt.107415	NM_173881	MB	Myoglobin
38	Bt.360	NM_174107	MBL2	Mannose-binding lectin (protein C) 2, soluble

Position	UniGene	GenBank	Symbol	Description
39	Bt.1157	NM_001035046	MGST3	Microsomal glutathione S-transferase 3
40	Bt.23901	NM_001113298	MPO	Myeloperoxidase
41	Bt.61837	NM_001045929	MPV17	MpV17 mitochondrial inner membrane protein
42	Bt.4655	NM_174114	MSRA	Methionine sulfoxide reductase A
43	Bt.16213	NM_001113304	MT3	Metallothionein 3
44	Bt.142	NM_174119	NCF1	Neutrophil cytosolic factor 1
45	Bt.143	NM_174120	NCF2	Neutrophil cytosolic factor 2
46	Bt.23126	NM_001076799	NOS2	Nitric oxide synthase 2, inducible
47	Bt.23582	XM_002699032	NOX4	NADPH oxidase 4
48	Bt.100200	NM_001101137	NOX5	NADPH oxidase, EF-hand calcium binding domain 5
49	Bt.28781	NM_001102075	NOXA1	NADPH oxidase activator 1
50	Bt.49629	NM_001034535	NQO1	NAD(P)H dehydrogenase, quinone 1
51	N/A	XM_002698230	NUDT1	Nudix (nucleoside diphosphate linked moiety X)-type motif 1
52	Bt.13538	NM_001076148	OXR1	Oxidation resistance 1
53	Bt.25047	NM_001075892	OXSRI	Oxidative-stress responsive 1
54	Bt.32810	NM_001035455	PDLIM1	PDZ and LIM domain 1
55	Bt.24573	NM_001083522	PNKP	Polynucleotide kinase 3'-phosphatase
56	Bt.65324	NM_174431	PRDX1	Peroxiredoxin 1
57	Bt.2689	NM_174763	PRDX2	Peroxiredoxin 2
58	Bt.103308	NM_174432	PRDX3	Peroxiredoxin 3
59	Bt.5203	NM_174433	PRDX4	Peroxiredoxin 4
60	Bt.47193	NM_174749	PRDX5	Peroxiredoxin 5
61	Bt.49705	NM_174643	PRDX6	Peroxiredoxin 6
62	N/A	XM_010811758	PREX1	Phosphatidylinositol-3,4,5-trisphosphate-dependent Rac exchange factor 1
63	Bt.4737	NM_001271625	PRNP	Prion protein
64	Bt.2151	NM_001105323	PTGS1	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)
65	Bt.15758	NM_174445	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
66	N/A	XM_010800841	PXDN	Peroxidasin homolog (Drosophila)
67	Bt.17228	NM_001075720	RNF7	Ring finger protein 7
68	N/A	XM_002689483	SCARA3	Scavenger receptor class A, member 3
69	Bt.64610	NM_174459	SEPP1	Selenoprotein P, plasma, 1
70	Bt.33887	NM_181026	SFTPD	Surfactant protein D
71	Bt.19604	NM_001113531	SIRT2	Sirtuin 2
72	Bt.49637	NM_174615	SOD1	Superoxide dismutase 1, soluble
73	Bt.4748	NM_201527	SOD2	Superoxide dismutase 2, mitochondrial
74	Bt.1616	NM_001082610	SOD3	Superoxide dismutase 3, extracellular
75	Bt.28031	NM_176641	SQSTM1	Sequestosome 1
76	Bt.13906	NM_001205988	SRXN1	Sulfiredoxin 1
77	Bt.23261	NM_183407	STK25	Serine/threonine kinase 25
78	N/A	XM_002683944	TPO	Thyroid peroxidase

<b>Position</b>	<b>UniGene</b>	<b>GenBank</b>	<b>Symbol</b>	<b>Description</b>
79	Bt.36692	XM_010801870	TTN	Titin
80	Bt.231	NM_173968	TXN	Thioredoxin
81	Bt.5534	NM_174625	TXNRD1	Thioredoxin reductase 1
82	Bt.4008	NM_174626	TXNRD2	Thioredoxin reductase 2
83	Bt.5180	NM_001033611	UCP2	Uncoupling protein 2 (mitochondrial, proton carrier)
84	Bt.15696	NM_001046114	VIMP	Selenoprotein 5
85	Bt.14186	NM_173979	ACTB	Actin, beta
86	Bt.87389	NM_001034034	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
87	Bt.49238	NM_001034035	HPRT1	Hypoxanthine phosphoribosyltransferase 1
88	Bt.22662	NM_001075742	TBP	TATA box binding protein
89	Bt.111451	NM_174814	YWHAZ	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta polypeptide
90	N/A	SA_00137	BGDC	Cow 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, 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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