RT² Profiler PCR Array (Rotor-Gene® Format)

Human Oxidative Stress Plus

Cat. no. 330231 PAHS-065YR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Human Oxidative Stress Plus RT² Profiler PCR Array profiles the expression of 84 genes related to oxidative stress. It also determines whether oxidative stress pathway activity is increased or unchanged in experimental samples. 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). The array also includes 16 experimentally derived Signature Biomarker Genes which, along with classification algorithms, are used to generate the activity score. A set of controls present on each array enables data analysis using the ΔΔCT method of relative quantification, assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably determine oxidative stress pathway activity and 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 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 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.

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.592379	NM_000477	ALB	Albumin
A02	Hs.654431	NM_000697	ALOX12	Arachidonate 12-lipoxygenase
A03	Hs.406238	NM_001159	AOX1	Aldehyde oxidase 1
A04	Hs.654439	NM_000041	APOE	Apolipoprotein E
A05	Hs.125213	NM_004045	ATOX1	ATX1 antioxidant protein 1 homolog (yeast)
A06	Hs.144873	NM_004052	BNIP3	BCL2/adenovirus E1B 19kDa interacting protein 3
A07	Hs.502302	NM_001752	CAT	Catalase
A08	Hs.514821	NM_002985	CCL5	Chemokine (C-C motif) ligand 5
A09	Hs.502917	NM_005125	CCS	Copper chaperone for superoxide dismutase
A10	Hs.292356	NM_000397	CYBB	Cytochrome b-245, beta polypeptide
A11	Hs.95120	NM_134268	CYGB	Cytoglobin
A12	Hs.498727	NM_014762	DHCR24	24-dehydrocholesterol reductase
B01	Hs.272813	NM_175940	DUOX1	Dual oxidase 1
B02	Hs.71377	NM_014080	DUOX2	Dual oxidase 2
B03	Hs.171695	NM_004417	DUSP1	Dual specificity phosphatase 1
B04	Hs.212088	NM_001979	EPHX2	Epoxide hydrolase 2, cytoplasmic
B05	Hs.279259	NM_000502	EPX	Eosinophil peroxidase
B06	Hs.735243	NM_021953	FOXM1	Forkhead box M1
B07	Hs.712676	NM_002032	FTH1	Ferritin, heavy polypeptide 1
B08	Hs.654465	NM_001498	GCLC	Glutamate-cysteine ligase, catalytic subunit
B09	Hs.76686	NM_000581	GPX1	Glutathione peroxidase 1
B10	Hs.2704	NM_002083	GPX2	Glutathione peroxidase 2 (gastrointestinal)
B11	Hs.386793	NM_002084	GPX3	Glutathione peroxidase 3 (plasma)
B12	Hs.433951	NM_002085	GPX4	Glutathione peroxidase 4 (phospholipid hydroperoxidase)
C01	Hs.248129	NM_001509	GPX5	Glutathione peroxidase 5 (epididymal androgen-related protein)
C02	Hs.271510	NM_000637	GSR	Glutathione reductase
C03	Hs.82327	NM_000178	GSS	Glutathione synthetase
C04	Hs.523836	NM_000852	GSTP1	Glutathione S-transferase pi 1
C05	Hs.655292	NM_001513	GSTZ1	Glutathione transferase zeta 1
C06	Hs.702139	NM_005345	HSPA1A	Heat shock 70kDa protein 1A
C07	Hs.80828	NM_006121	KRT1	Keratin 1
C08	Hs.234742	NM_006151	LPO	Lactoperoxidase
C09	Hs.517586	NM_005368	MB	Myoglobin
C10	Hs.499674	NM_000242	MBL2	Mannose-binding lectin (protein C) 2, soluble
C11	Hs.458272	NM_000250	MPO	Myeloperoxidase
C12	Hs.75659	NM_002437	MPV17	MpV17 mitochondrial inner membrane protein
D01	Hs.490981	NM_012331	MSRA	Methionine sulfoxide reductase A
D02	Hs.73133	NM_005954	MT3	Metallothionein 3
D03	Hs.655201	NM_000265	NCF1	Neutrophil cytosolic factor 1
D04	Hs.587558	NM_000433	NCF2	Neutrophil cytosolic factor 2
D05	Hs.709191	NM_000625	NOS2	Nitric oxide synthase 2, inducible
D06	Hs.371036	NM_016931	NOX4	NADPH oxidase 4
D07	Hs.657932	NM_024505	NOX5	NADPH oxidase, EF-hand calcium binding domain 5
D08	Hs.534331	NM_002452	NUDT1	Nudix (nucleoside diphosphate linked moiety X)-type motif 1
D09	Hs.368525	NM_020992	PDLIM1	PDZ and LIM domain 1
D10	Hs.731900	NM_002574	PRDX1	Peroxiredoxin 1
D11	Hs.432121	NM_005809	PRDX2	Peroxiredoxin 2
D12	Hs.523302	NM_006793	PRDX3	Peroxiredoxin 3
E01	Hs.83383	NM_006406	PRDX4	Peroxiredoxin 4
E02	Hs.502823	NM_181652	PRDX5	Peroxiredoxin 5
E03	Hs.731505	NM_004905	PRDX6	Peroxiredoxin 6
E04	Hs.610285	NM_183079	PRNP	Prion protein
E05	Hs.201978	NM_000962	PTGS1	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)
E06	Hs.196384	NM_000963	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
E07	Hs.134623	NM_014245	RNF7	Ring finger protein 7

Position	UniGene	GenBank	Symbol	Description
E08	Hs.32148	NM_203472	VIMP	Selenoprotein S
E09	Hs.745017	NM_005410	SEPP1	Selenoprotein P, plasma, 1
E10	Hs.253495	NM_003019	SFTPD	Surfactant protein D
E11	Hs.466693	NM_012237	SIRT2	Sirtuin 2
E12	Hs.443914	NM_000454	SOD1	Superoxide dismutase 1, soluble
F01	Hs.487046	NM_000636	SOD2	Superoxide dismutase 2, mitochondrial
F02	Hs.2420	NM_003102	SOD3	Superoxide dismutase 3, extracellular
F03	Hs.724025	NM_003900	SQSTM1	Sequestosome 1
F04	Hs.516830	NM_080725	SRXN1	Sulfiredoxin 1
F05	Hs.467554	NM_000547	TPO	Thyroid peroxidase
F06	Hs.134602	NM_003319	TTN	Titin
F07	Hs.443430	NM_006440	TXNRD2	Thioredoxin reductase 2
F08	Hs.80658	NM_003355	UCP2	Uncoupling protein 2 (mitochondrial, proton carrier)
F09	Hs.734597	NM_001354	AKR1C2	Aldo-keto reductase family 1, member C2 (dihydrodiol dehydrogenase 2; bile acid binding protein; 3-alpha hydroxysteroid dehydrogenase, type III)
F10	Hs.745046	NM_004282	BAG2	BCL2-associated athanogene 2
F11	Hs.443687	NM_001450	FHL2	Four and a half LIM domains 2
F12	Hs.315562	NM_002061	GCLM	Glutamate-cysteine ligase, modifier subunit
G01	Hs.69089	NM_000169	GLA	Galactosidase, alpha
G02	Hs.517581	NM_002133	HMOX1	Heme oxygenase (decycling) 1
G03	Hs.525600	NM_001017963	HSP90AA1	Heat shock protein 90kDa alpha (cytosolic), class A member 1
G04	Hs.527748	NM_022126	LHPP	Phospholysine phosphohistidine inorganic pyrophosphate phosphatase
G05	Hs.171426	NM_181782	NCOA7	Nuclear receptor coactivator 7
G06	Hs.406515	NM_000903	NQO1	NAD(P)H dehydrogenase, quinone 1
G07	Hs.584864	NM_012212	PTGR1	Prostaglandin reductase 1
G08	Hs.390594	NM_014331	SLC7A11	Solute carrier family 7 (anionic amino acid transporter light chain, xc- system), member 11
G09	Hs.407856	NM_003122	SPINK1	Serine peptidase inhibitor, Kazal type 1
G10	Hs.466929	NM_024108	TRAPPC6A	Trafficking protein particle complex 6A
G11	Hs.435136	NM_003329	TXN	Thioredoxin
G12	Hs.654922	NM_003330	TXNRD1	Thioredoxin reductase 1
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.544577	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human 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.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² 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.

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 or can be requested from QIAGEN Technical Services or your local distributor.

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