RT² Profiler PCR Array (Rotor-Gene® Format)

Human DNA Damage Signaling Pathway

Cat. no. 330231 PAHS-029ZR

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 DNA Damage Signaling RT² Profiler PCR Array profiles the expression of 84 genes involved in DNA damage signaling pathways. The genes featured are those associated with the ATR/ATM signaling network and transcriptional targets of DNA damage response. DNA damage can result in cell cycle arrest, apoptosis, and the stabilization and repair of the cellular genome. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to DNA Damage Signaling 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.431048	NM_005157	ABL1	C-abl oncogene 1, non-receptor tyrosine kinase
A02	Hs.73722	NM_080649	APEX1	APEX nuclease (multifunctional DNA repair enzyme) 1
A03	Hs.367437	NM_000051	ATM	Ataxia telangiectasia mutated
A04	Hs.271791	NM_001184	ATR	Ataxia telangiectasia and Rad3 related
A05	Hs.694840	NM_032166	ATRIP	ATR interacting protein
A06	Hs.533526	NM_000489	ATRX	Alpha thalassemia/mental retardation syndrome X-linked
A07	Hs.591642	NM_000465	BARD1	BRCA1 associated RING domain 1
A08	Hs.624291	NM_004324	BAX	BCL2-associated X protein
A09	Hs.467020	NM_014417	BBC3	BCL2 binding component 3
A10	Hs.716515	NM_000057	BLM	Bloom syndrome, RecQ helicase-like
A11	Hs.194143	NM_007294	BRCA1	Breast cancer 1, early onset
A12	Hs.532799	NM_032043	BRIP1	BRCA1 interacting protein C-terminal helicase 1
B01	Hs.437705	NM_001789	CDC25A	Cell division cycle 25 homolog A (S. pombe)
B02	Hs.656	NM_001790	CDC25C	Cell division cycle 25 homolog C (S. pombe)
B03	Hs.184298	NM_001799	CDK7	Cyclin-dependent kinase 7
B04	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
B05	Hs.24529	NM_001274	CHEK1	CHK1 checkpoint homolog (S. pombe)
B06	Hs.291363	NM_007194	CHEK2	CHK2 checkpoint homolog (S. pombe)
B07	Hs.135471	NM_006384	CIB1	Calcium and integrin binding 1 (calmyrin)
B08	Hs.151573	NM_004075	CRY1	Cryptochrome 1 (photolyase-like)
B09	Hs.82201	NM_001896	CSNK2A2	Casein kinase 2, alpha prime polypeptide
B10	Hs.290758	NM_001923	DDB1	Damage-specific DNA binding protein 1, 127kDa
B11	Hs.700338	NM_000107	DDB2	Damage-specific DNA binding protein 2, 48kDa
B12	Hs.728989	NM_004083	DDIT3	DNA-damage-inducible transcript 3
C01	Hs.435981	NM_001983	ERCC1	Excision repair cross-complementing rodent repair deficiency, complementation group 1 (includes overlapping antisense sequence)
C02	Hs.487294	NM_000400	ERCC2	Excision repair cross-complementing rodent repair deficiency, complementation group 2
C03	Hs.498248	NM_130398	EXO1	Exonuclease 1
C04	Hs.567267	NM_000135	FANCA	Fanconi anemia, complementation group A
C05	Hs.208388	NM_033084	FANCD2	Fanconi anemia, complementation group D2
C06	Hs.591084	NM_004629	FANCG	Fanconi anemia, complementation group G
C07	Hs.409065	NM_004111	FEN1	Flap structure-specific endonuclease 1
C08	Hs.80409	NM_001924	GADD45A	Growth arrest and DNA-damage-inducible, alpha
C09	Hs.9701	NM_006705	GADD45G	Growth arrest and DNA-damage-inducible, gamma
C10	Hs.477879	NM_002105	H2AFX	H2A histone family, member X
C11	Hs.152983	NM_004507	HUS1	HUS1 checkpoint homolog (S. pombe)
C12	Hs.1770	NM_000234	LIG1	Ligase I, DNA, ATP-dependent
D01	Hs.432642	NM_002969	MAPK12	Mitogen-activated protein kinase 12
D02	Hs.35947	NM_003925	MBD4	Methyl-CpG binding domain protein 4
D03	Hs.709634	NM_024596	MCPH1	Microcephalin 1
D04	Hs.653495	NM_014641	MDC1	Mediator of DNA-damage checkpoint 1
D05	Hs.195364	NM_000249	MLH1	MutL homolog 1, colon cancer, nonpolyposis type 2 (E. coli)
D06	Hs.436650	NM_014381	MLH3	MutL homolog 3 (E. coli)
D07	Hs.459596	NM_002434	MPG	N-methylpurine-DNA glycosylase
D08	Hs.192649	NM_005590	MRE11A	MRE11 meiotic recombination 11 homolog A (S. cerevisiae)
D09	Hs.597656	NM_000251	MSH2	MutS homolog 2, colon cancer, nonpolyposis type 1 (E. coli)
D10	Hs.280987	NM_002439	MSH3	MutS homolog 3 (E. coli)
D11	Hs.492208	NM_002485	NBN	Nibrin
D12	Hs.66196	NM_002528	NTHL1	Nth endonuclease III-like 1 (E. coli)
E01	Hs.380271	NM_002542	OGG1	8-oxoguanine DNA glycosylase
E02	Hs.177766	NM_001618	PARP1	Poly (ADP-ribose) polymerase 1
E03	Hs.728886	NM_182649	PCNA	Proliferating cell nuclear antigen
E04	Hs.111749	NM_000534	PMS1	PMS1 postmeiotic segregation increased 1 (S. cerevisiae)
E05	Hs.632637	NM_000535	PMS2	PMS2 postmeiotic segregation increased 2 (S. cerevisiae)
E06	Hs.78016	NM_007254	PNKP	Polynucleotide kinase 3'-phosphatase
E07	Hs.591184	NM_003620	PPM1D	Protein phosphatase, Mg2+/Mn2+ dependent, 1D

Position	UniGene	GenBank	Symbol	Description
E08	Hs.631593	NM_014330	PPP1R15A	Protein phosphatase 1, regulatory (inhibitor) subunit 15A
E09	Hs.491682	NM_006904	PRKDC	Protein kinase, DNA-activated, catalytic polypeptide
E10	Hs.531879	NM_002853	RAD1	RAD1 homolog (S. pombe)
E11	Hs.16184	NM_002873	RAD17	RAD17 homolog (S. pombe)
E12	Hs.375684	NM_020165	RAD18	RAD18 homolog (S. cerevisiae)
F01	Hs.81848	NM_006265	RAD21	RAD21 homolog (S. pombe)
F02	Hs.655835	NM_005732	RAD50	RAD50 homolog (S. cerevisiae)
F03	Hs.631709	NM_002875	RAD51	RAD51 homolog (S. cerevisiae)
F04	Hs.172587	NM_133509	RAD51B	RAD51 homolog B (S. cerevisiae)
F05	Hs.655354	NM_004584	RAD9A	RAD9 homolog A (S. pombe)
F06	Hs.546282	NM_002894	RBBP8	Retinoblastoma binding protein 8
F07	Hs.443077	NM_016316	REV1	REV1 homolog (S. cerevisiae)
F08	Hs.660132	NM_152617	RNF168	Ring finger protein 168
F09	Hs.485278	NM_183078	RNF8	Ring finger protein 8
F10	Hs.461925	NM_002945	RPA1	Replication protein A1, 70kDa
F11	Hs.369779	NM_012238	SIRT1	Sirtuin 1
F12	Hs.211602	NM_006306	SMC1A	Structural maintenance of chromosomes 1A
G01	Hs.81424	NM_003352	SUMO1	SMT3 suppressor of mif two 3 homolog 1 (S. cerevisiae)
G02	Hs.53454	NM_007027	TOPBP1	Topoisomerase (DNA) II binding protein 1
G03	Hs.654481	NM_000546	TP53	Tumor protein p53
G04	Hs.440968	NM_005657	TP53BP1	Tumor protein p53 binding protein 1
G05	Hs.697294	NM_005427	TP73	Tumor protein p73
G06	Hs.191334	NM_003362	UNG	Uracil-DNA glycosylase
G07	Hs.654364	NM_000380	XPA	Xeroderma pigmentosum, complementation group A
G08	Hs.475538	NM_004628	XPC	Xeroderma pigmentosum, complementation group C
G09	Hs.98493	NM_006297	XRCC1	X-ray repair complementing defective repair in Chinese hamster cells 1
G10	Hs.647093	NM_005431	XRCC2	X-ray repair complementing defective repair in Chinese hamster cells 2
G11	Hs.592325	NM_005432	XRCC3	X-ray repair complementing defective repair in Chinese hamster cells 3
G12	Hs.292493	NM_001469	XRCC6	X-ray repair complementing defective repair in Chinese hamster cells 6
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	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.

www.qiagen.com

Australia ▪ 1-800-243-800
Austria ▪ 0800/281010
Belgium ▪ 0800-79612
Brazil ▪ 0800-557779
Canada ▪ 800-572-9613
China ▪ 8621-3865-3865
Denmark ▪ 80-885945
Finland ▪ 0800-914416
France ▪ 01-60-920-930
Germany ▪ 02103-29-12000
Hong Kong ▪ 800 933 965
Ireland ▪ 1800 555 049
Italy ▪ 800-787980
Japan ▪ 03-6890-7300
Korea (South) ▪ 080-000-7145
Luxembourg ▪ 8002 2076
Mexico ▪ 01-800-7742-436
The Netherlands ▪ 0800 0229592
Norway ▪ 800-18859
Singapore ▪ 1800-742-4368
Spain ▪ 91-630-7050
Sweden ▪ 020-790282
Switzerland ▪ 055-254-22-11
UK ▪ 01293-422-911
USA ▪ 800-426-8157