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

Human Cancer Drug Resistance

Cat. no. 330231 PAHS-004ZA

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² 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
RT² Profiler PCR Array, Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
RT² Profiler PCR Array, Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
RT² Profiler PCR Array, Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
RT² Profiler PCR Array, Format F	Roche® LightCycler® 480 (96-well block)
RT² Profiler PCR Array, Format G	Roche LightCycler 480 (384-well block)
RT² Profiler PCR Array, Format H	Fluidigm® BioMark™

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Description

The Human Cancer Drug Resistance RT² Profiler PCR Array profiles the expression of 84 genes involved in the body's response to chemotherapy. The genes encoding important enzymes for drug resistance (such as the P-glycoproteins), phase I metabolism (specifically the P450 family), and phase II metabolism (such as various covalent modification enzymes) are all represented on the array. Cancer-related genes involved in aspects of resistance are also included on the array such as DNA repair enzymes, cell cycle regulators, growth factor and hormone receptors, and transcription factors. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to cancer drug resistance and metabolism 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	ABCB1	ABCC1	ABCC2	ABCC3	ABCC5	ABCG2	AHR	AP1S1	APC	AR	ARNT	ATM
B	BAX	BCL2	BCL2L1	BLMH	BRCA1	BRCA2	CCND1	CCNE1	CDK2	CDK4	CDKN1A	CDKN1B
C	CDKN2A	CDKN2D	CLPTM1L	CYP1A1	CYP1A2	CYP2B6	CYP2C19	CYP2C8	CYP2C9	CYP2D6	CYP2E1	CYP3A4
D	CYP3A5	DHFR	EGFR	ELK1	EPHX1	ERBB2	ERBB3	ERBB4	ERCC3	ESR1	ESR2	FGF2
E	FOS	GSK3A	GSTP1	HIF1A	IGF1R	IGF2R	MET	MSH2	MVP	MYC	NAT2	NFKB1
F	NFKB2	NFKBIB	NFKBIE	PPARA	PPARD	PPARG	RARA	RARB	RARG	RB1	RELB	RXRA
G	RXRB	SOD1	SULT1E1	TNFRSF11A	TOP1	TOP2A	TOP2B	TP53	TPMT	UGCG	XPA	XPC
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.489033	NM_000927	ABCB1	ATP-binding cassette, sub-family B (MDR/TAP), member 1
A02	Hs.709181	NM_004996	ABCC1	ATP-binding cassette, sub-family C (CFTR/MRP), member 1
A03	Hs.368243	NM_000392	ABCC2	ATP-binding cassette, sub-family C (CFTR/MRP), member 2
A04	Hs.463421	NM_003786	ABCC3	ATP-binding cassette, sub-family C (CFTR/MRP), member 3
A05	Hs.728765	NM_005688	ABCC5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5
A06	Hs.480218	NM_004827	ABCG2	ATP-binding cassette, sub-family G (WHITE), member 2
A07	Hs.171189	NM_001621	AHR	Aryl hydrocarbon receptor
A08	Hs.729170	NM_001283	AP1S1	Adaptor-related protein complex 1, sigma 1 subunit
A09	Hs.158932	NM_000038	APC	Adenomatous polyposis coli
A10	Hs.496240	NM_000044	AR	Androgen receptor
A11	Hs.632446	NM_001668	ARNT	Aryl hydrocarbon receptor nuclear translocator
A12	Hs.367437	NM_000051	ATM	Ataxia telangiectasia mutated
B01	Hs.624291	NM_004324	BAX	BCL2-associated X protein
B02	Hs.150749	NM_000633	BCL2	B-cell CLL/lymphoma 2
B03	Hs.516966	NM_138578	BCL2L1	BCL2-like 1
B04	Hs.371914	NM_000386	BLMH	Bleomycin hydrolase
B05	Hs.194143	NM_007294	BRCA1	Breast cancer 1, early onset
B06	Hs.34012	NM_000059	BRCA2	Breast cancer 2, early onset
B07	Hs.523852	NM_053056	CCND1	Cyclin D1
B08	Hs.244723	NM_001238	CCNE1	Cyclin E1
B09	Hs.19192	NM_001798	CDK2	Cyclin-dependent kinase 2
B10	Hs.95577	NM_000075	CDK4	Cyclin-dependent kinase 4
B11	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)
B12	Hs.238990	NM_004064	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)
C01	Hs.512599	NM_000077	CDKN2A	Cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)
C02	Hs.435051	NM_001800	CDKN2D	Cyclin-dependent kinase inhibitor 2D (p19, inhibits CDK4)
C03	Hs.444673	NM_030782	CLPTM1L	CLPTM1-like
C04	Hs.72912	NM_000499	CYP1A1	Cytochrome P450, family 1, subfamily A, polypeptide 1
C05	Hs.1361	NM_000761	CYP1A2	Cytochrome P450, family 1, subfamily A, polypeptide 2
C06	Hs.1360	NM_000767	CYP2B6	Cytochrome P450, family 2, subfamily B, polypeptide 6
C07	Hs.282409	NM_000769	CYP2C19	Cytochrome P450, family 2, subfamily C, polypeptide 19
C08	Hs.709188	NM_000770	CYP2C8	Cytochrome P450, family 2, subfamily C, polypeptide 8
C09	Hs.282624	NM_000771	CYP2C9	Cytochrome P450, family 2, subfamily C, polypeptide 9
C10	Hs.648256	NM_000106	CYP2D6	Cytochrome P450, family 2, subfamily D, polypeptide 6
C11	Hs.12907	NM_000773	CYP2E1	Cytochrome P450, family 2, subfamily E, polypeptide 1
C12	Hs.654391	NM_017460	CYP3A4	Cytochrome P450, family 3, subfamily A, polypeptide 4
D01	Hs.695915	NM_000777	CYP3A5	Cytochrome P450, family 3, subfamily A, polypeptide 5
D02	Hs.592364	NM_000791	DHFR	Dihydrofolate reductase
D03	Hs.488293	NM_005228	EGFR	Epidermal growth factor receptor
D04	Hs.181128	NM_005229	ELK1	ELK1, member of ETS oncogene family
D05	Hs.89649	NM_000120	EPHX1	Epoxide hydrolase 1, microsomal (xenobiotic)
D06	Hs.446352	NM_004448	ERBB2	V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
D07	Hs.118681	NM_001982	ERBB3	V-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian)
D08	Hs.390729	NM_005235	ERBB4	V-erb-a erythroblastic leukemia viral oncogene homolog 4 (avian)

Position	UniGene	GenBank	Symbol	Description
D09	Hs.469872	NM_000122	ERCC3	Excision repair cross-complementing rodent repair deficiency, complementation group 3 (xeroderma pigmentosum group B complementing)
D10	Hs.208124	NM_000125	ESR1	Estrogen receptor 1
D11	Hs.729020	NM_001437	ESR2	Estrogen receptor 2 (ER beta)
D12	Hs.284244	NM_002006	FGF2	Fibroblast growth factor 2 (basic)
E01	Hs.728789	NM_005252	FOS	FBJ murine osteosarcoma viral oncogene homolog
E02	Hs.466828	NM_019884	GSK3A	Glycogen synthase kinase 3 alpha
E03	Hs.523836	NM_000852	GSTP1	Glutathione S-transferase pi 1
E04	Hs.597216	NM_001530	HIF1A	Hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)
E05	Hs.643120	NM_000875	IGF1R	Insulin-like growth factor 1 receptor
E06	Hs.487062	NM_000876	IGF2R	Insulin-like growth factor 2 receptor
E07	Hs.132966	NM_000245	MET	Met proto-oncogene (hepatocyte growth factor receptor)
E08	Hs.597656	NM_000251	MSH2	MutS homolog 2, colon cancer, nonpolyposis type 1 (E. coli)
E09	Hs.632177	NM_017458	MVP	Major vault protein
E10	Hs.202453	NM_002467	MYC	V-myc myelocytomatosis viral oncogene homolog (avian)
E11	Hs.2	NM_000015	NAT2	N-acetyltransferase 2 (arylamine N-acetyltransferase)
E12	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
F01	Hs.73090	NM_002502	NFKB2	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 2 (p49/p100)
F02	Hs.9731	NM_002503	NFKBIB	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, beta
F03	Hs.458276	NM_004556	NFKBIE	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, epsilon
F04	Hs.103110	NM_005036	PPARA	Peroxisome proliferator-activated receptor alpha
F05	Hs.696032	NM_006238	PPARD	Peroxisome proliferator-activated receptor delta
F06	Hs.162646	NM_015869	PPARG	Peroxisome proliferator-activated receptor gamma
F07	Hs.654583	NM_000964	RARA	Retinoic acid receptor, alpha
F08	Hs.654490	NM_000965	RARB	Retinoic acid receptor, beta
F09	Hs.1497	NM_000966	RARG	Retinoic acid receptor, gamma
F10	Hs.408528	NM_000321	RB1	Retinoblastoma 1
F11	Hs.654402	NM_006509	RELB	V-rel reticuloendotheliosis viral oncogene homolog B
F12	Hs.590886	NM_002957	RXRA	Retinoid X receptor, alpha
G01	Hs.388034	NM_021976	RXRB	Retinoid X receptor, beta
G02	Hs.443914	NM_000454	SOD1	Superoxide dismutase 1, soluble
G03	Hs.479898	NM_005420	SULT1E1	Sulfotransferase family 1E, estrogen-preferring, member 1
G04	Hs.204044	NM_003839	TNFRSF11A	Tumor necrosis factor receptor superfamily, member 11a, NFKB activator
G05	Hs.472737	NM_003286	TOP1	Topoisomerase (DNA) I
G06	Hs.156346	NM_001067	TOP2A	Topoisomerase (DNA) II alpha 170kDa
G07	Hs.475733	NM_001068	TOP2B	Topoisomerase (DNA) II beta 180kDa
G08	Hs.654481	NM_000546	TP53	Tumor protein p53
G09	Hs.444319	NM_000367	TPMT	Thiopurine S-methyltransferase
G10	Hs.304249	NM_003358	UGCG	UDP-glucose ceramide glucosyltransferase
G11	Hs.654364	NM_000380	XPA	Xeroderma pigmentosum, complementation group A
G12	Hs.475538	NM_004628	XPC	Xeroderma pigmentosum, complementation group C
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 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
RT² 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
RT² 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.

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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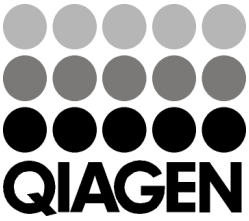

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