

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

Human Drug Metabolism: Phase I Enzymes

Cat. no. 330231 PAHS-068ZA

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 Human Drug Metabolism: Phase I Enzymes RT² Profiler PCR Array contains 84 genes involved in phase I drug metabolism. Phase I drug metabolism enzymes make compounds more hydrophilic and add functional groups necessary for the completion of Phase II drug metabolism. This array represents genes involved in Phase I drug metabolism reactions including oxidation, reduction, hydrolysis, cyclization, and decyclization. Members of the Cytochrome P450 enzyme family that play a key role in mediating phase I drug metabolism reactions are also included on this array. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to drug phase I 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	AADAC	ADH1A	ADH1B	ADH1C	ADH4	ADH5	ADH6	ADH7	ALDH1A1	ALDH1A2	ALDH1A3	ALDH1B1
B	ALDH2	ALDH3A1	ALDH3A2	ALDH3B1	ALDH3B2	ALDH4A1	ALDH5A1	ALDH6A1	ALDH7A1	ALDH8A1	ALDH9A1	CEL
C	CYP11A1	CYP11B1	CYP11B2	CYP17A1	CYP19A1	CYP1A1	CYP1A2	CYP1B1	CYP21A2	CYP24A1	CYP26A1	CYP26B1
D	CYP26C1	CYP27A1	CYP27B1	CYP2A13	CYP2B6	CYP2C18	CYP2C19	CYP2C8	CYP2C9	CYP2D6	CYP2E1	CYP2F1
E	CYP2R1	CYP2S1	CYP2W1	CYP3A4	CYP3A43	CYP3A5	CYP3A7	CYP4A11	CYP4A22	CYP4B1	CYP4F11	CYP4F12
F	CYP4F2	CYP4F3	CYP4F8	CYP7A1	CYP7B1	CYP8B1	DHRS2	DPYD	ESD	FMO1	FMO2	FMO3
G	FMO4	FMO5	GZMA	GZMB	HSD17B10	MAOA	MAOB	PTGS1	PTGS2	UCHL1	UCHL3	XDH
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.506908	NM_001086	AADAC	Arylacetamide deacetylase (esterase)
A02	Hs.654433	NM_000667	ADH1A	Alcohol dehydrogenase 1A (class I), alpha polypeptide
A03	Hs.4	NM_000668	ADH1B	Alcohol dehydrogenase 1B (class I), beta polypeptide
A04	Hs.654537	NM_000669	ADH1C	Alcohol dehydrogenase 1C (class I), gamma polypeptide
A05	Hs.1219	NM_000670	ADH4	Alcohol dehydrogenase 4 (class II), pi polypeptide
A06	Hs.78989	NM_000671	ADH5	Alcohol dehydrogenase 5 (class III), chi polypeptide
A07	Hs.586161	NM_000672	ADH6	Alcohol dehydrogenase 6 (class V)
A08	Hs.389	NM_000673	ADH7	Alcohol dehydrogenase 7 (class IV), mu or sigma polypeptide
A09	Hs.76392	NM_000689	ALDH1A1	Aldehyde dehydrogenase 1 family, member A1
A10	Hs.643455	NM_003888	ALDH1A2	Aldehyde dehydrogenase 1 family, member A2
A11	Hs.459538	NM_000693	ALDH1A3	Aldehyde dehydrogenase 1 family, member A3
A12	Hs.436219	NM_000692	ALDH1B1	Aldehyde dehydrogenase 1 family, member B1
B01	Hs.632733	NM_000690	ALDH2	Aldehyde dehydrogenase 2 family (mitochondrial)
B02	Hs.531682	NM_000691	ALDH3A1	Aldehyde dehydrogenase 3 family, member A1
B03	Hs.499886	NM_000382	ALDH3A2	Aldehyde dehydrogenase 3 family, member A2
B04	Hs.523841	NM_000694	ALDH3B1	Aldehyde dehydrogenase 3 family, member B1
B05	Hs.87539	NM_000695	ALDH3B2	Aldehyde dehydrogenase 3 family, member B2
B06	Hs.77448	NM_003748	ALDH4A1	Aldehyde dehydrogenase 4 family, member A1
B07	Hs.371723	NM_001080	ALDH5A1	Aldehyde dehydrogenase 5 family, member A1
B08	Hs.293970	NM_005589	ALDH6A1	Aldehyde dehydrogenase 6 family, member A1
B09	Hs.483239	NM_001182	ALDH7A1	Aldehyde dehydrogenase 7 family, member A1
B10	Hs.486520	NM_022568	ALDH8A1	Aldehyde dehydrogenase 8 family, member A1
B11	Hs.2533	NM_000696	ALDH9A1	Aldehyde dehydrogenase 9 family, member A1
B12	Hs.533258	NM_001807	CEL	Carboxyl ester lipase (bile salt-stimulated lipase)
C01	Hs.303980	NM_000781	CYP11A1	Cytochrome P450, family 11, subfamily A, polypeptide 1
C02	Hs.184927	NM_000497	CYP11B1	Cytochrome P450, family 11, subfamily B, polypeptide 1
C03	Hs.632054	NM_000498	CYP11B2	Cytochrome P450, family 11, subfamily B, polypeptide 2
C04	Hs.438016	NM_000102	CYP17A1	Cytochrome P450, family 17, subfamily A, polypeptide 1
C05	Hs.260074	NM_000103	CYP19A1	Cytochrome P450, family 19, subfamily A, polypeptide 1
C06	Hs.72912	NM_000499	CYP1A1	Cytochrome P450, family 1, subfamily A, polypeptide 1
C07	Hs.1361	NM_000761	CYP1A2	Cytochrome P450, family 1, subfamily A, polypeptide 2
C08	Hs.154654	NM_000104	CYP1B1	Cytochrome P450, family 1, subfamily B, polypeptide 1
C09	Hs.654479	NM_000500	CYP21A2	Cytochrome P450, family 21, subfamily A, polypeptide 2
C10	Hs.89663	NM_000782	CYP24A1	Cytochrome P450, family 24, subfamily A, polypeptide 1
C11	Hs.150595	NM_000783	CYP26A1	Cytochrome P450, family 26, subfamily A, polypeptide 1
C12	Hs.91546	NM_019885	CYP26B1	Cytochrome P450, family 26, subfamily B, polypeptide 1
D01	Hs.369993	NM_183374	CYP26C1	Cytochrome P450, family 26, subfamily C, polypeptide 1
D02	Hs.516700	NM_000784	CYP27A1	Cytochrome P450, family 27, subfamily A, polypeptide 1
D03	Hs.524528	NM_000785	CYP27B1	Cytochrome P450, family 27, subfamily B, polypeptide 1
D04	Hs.567252	NM_000766	CYP2A13	Cytochrome P450, family 2, subfamily A, polypeptide 13
D05	Hs.1360	NM_000767	CYP2B6	Cytochrome P450, family 2, subfamily B, polypeptide 6
D06	Hs.511872	NM_000772	CYP2C18	Cytochrome P450, family 2, subfamily C, polypeptide 18
D07	Hs.282409	NM_000769	CYP2C19	Cytochrome P450, family 2, subfamily C, polypeptide 19
D08	Hs.709188	NM_000770	CYP2C8	Cytochrome P450, family 2, subfamily C, polypeptide 8
D09	Hs.282624	NM_000771	CYP2C9	Cytochrome P450, family 2, subfamily C, polypeptide 9

Position	UniGene	GenBank	Symbol	Description
D10	Hs.648256	NM_000106	CYP2D6	Cytochrome P450, family 2, subfamily D, polypeptide 6
D11	Hs.12907	NM_000773	CYP2E1	Cytochrome P450, family 2, subfamily E, polypeptide 1
D12	Hs.558318	NM_000774	CYP2F1	Cytochrome P450, family 2, subfamily F, polypeptide 1
E01	Hs.371427	NM_024514	CYP2R1	Cytochrome P450, family 2, subfamily R, polypeptide 1
E02	Hs.98370	NM_030622	CYP2S1	Cytochrome P450, family 2, subfamily S, polypeptide 1
E03	Hs.272795	NM_017781	CYP2W1	Cytochrome P450, family 2, subfamily W, polypeptide 1
E04	Hs.654391	NM_017460	CYP3A4	Cytochrome P450, family 3, subfamily A, polypeptide 4
E05	Hs.728751	NM_022820	CYP3A43	Cytochrome P450, family 3, subfamily A, polypeptide 43
E06	Hs.695915	NM_000777	CYP3A5	Cytochrome P450, family 3, subfamily A, polypeptide 5
E07	Hs.111944	NM_000765	CYP3A7	Cytochrome P450, family 3, subfamily A, polypeptide 7
E08	Hs.1645	NM_000778	CYP4A11	Cytochrome P450, family 4, subfamily A, polypeptide 11
E09	Hs.567807	NM_001010969	CYP4A22	Cytochrome P450, family 4, subfamily A, polypeptide 22
E10	Hs.436317	NM_000779	CYP4B1	Cytochrome P450, family 4, subfamily B, polypeptide 1
E11	Hs.187393	NM_021187	CYP4F11	Cytochrome P450, family 4, subfamily F, polypeptide 11
E12	Hs.591000	NM_023944	CYP4F12	Cytochrome P450, family 4, subfamily F, polypeptide 12
F01	Hs.558423	NM_001082	CYP4F2	Cytochrome P450, family 4, subfamily F, polypeptide 2
F02	Hs.106242	NM_000896	CYP4F3	Cytochrome P450, family 4, subfamily F, polypeptide 3
F03	Hs.268554	NM_007253	CYP4F8	Cytochrome P450, family 4, subfamily F, polypeptide 8
F04	Hs.1644	NM_000780	CYP7A1	Cytochrome P450, family 7, subfamily A, polypeptide 1
F05	Hs.667720	NM_004820	CYP7B1	Cytochrome P450, family 7, subfamily B, polypeptide 1
F06	Hs.447793	NM_004391	CYP8B1	Cytochrome P450, family 8, subfamily B, polypeptide 1
F07	Hs.272499	NM_182908	DHRS2	Dehydrogenase/reductase (SDR family) member 2
F08	Hs.335034	NM_000110	DPYD	Dihydropyrimidine dehydrogenase
F09	Hs.432491	NM_001984	ESD	Esterase D
F10	Hs.1424	NM_002021	FMO1	Flavin containing monooxygenase 1
F11	Hs.144912	NM_001460	FMO2	Flavin containing monooxygenase 2 (non-functional)
F12	Hs.445350	NM_006894	FMO3	Flavin containing monooxygenase 3
G01	Hs.386502	NM_002022	FMO4	Flavin containing monooxygenase 4
G02	Hs.642706	NM_001461	FMO5	Flavin containing monooxygenase 5
G03	Hs.90708	NM_006144	GZMA	Granzyme A (granzyme 1, cytotoxic T-lymphocyte-associated serine esterase 3)
G04	Hs.1051	NM_004131	GZMB	Granzyme B (granzyme 2, cytotoxic T-lymphocyte-associated serine esterase 1)
G05	Hs.171280	NM_004493	HSD17B10	Hydroxysteroid (17-beta) dehydrogenase 10
G06	Hs.183109	NM_000240	MAOA	Monoamine oxidase A
G07	Hs.654473	NM_000898	MAOB	Monoamine oxidase B
G08	Hs.201978	NM_000962	PTGS1	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)
G09	Hs.196384	NM_000963	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)
G10	Hs.518731	NM_004181	UCHL1	Ubiquitin carboxyl-terminal esterase L1 (ubiquitin thiolesterase)
G11	Hs.162241	NM_006002	UCHL3	Ubiquitin carboxyl-terminal esterase L3 (ubiquitin thiolesterase)
G12	Hs.250	NM_000379	XDH	Xanthine dehydrogenase
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.
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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