

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

Pig Drug Metabolism: Phase I Enzymes

Cat. no. 330231 PASS-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™



Description

The Pig 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	ADH1C	ADH4	ADH5	ADH7	ALDH1A1	ALDH1A2	ALDH1A3	ALDH1B1	ALDH2	ALDH3A1	ALDH3A2	ALDH3B1
B	ALDH4A1	ALDH5A1	ALDH6A1	ALDH7A1	ALDH8A1	ALDH9A1	CEL	CYP11A1	CYP17A1	CYP19A1	CYP1A1	CYP1A2
C	CYP20A1	CYP21A2	CYP24A1	CYP26A1	CYP27A1	CYP27B1	CYP2A19	CYP2B22	CYP2D25	CYP2E1	CYP2J34	CYP2R1
D	CYP3A22	CYP3A29	CYP3A39	CYP3A46	CYP4A21	CYP4F2	CYP4F55	CYP4V2	CYP7A1	CYP7B1	CYP8B1	DPYD
E	E5D	FMO1	FMO2	FMO3	FMO4	FMO5	GZMA	GZMB	HSD17B10	LOC100521659	LOC100522669	LOC100523190
F	LOC100523909	LOC100620265	LOC100623616	LOC100624257	LOC100625479	LOC100737508	LOC100739552	LOC102165015	LOC106510546	LOC110256857	LOC110259328	LOC110259329
G	LOC110259856	LOC110260194	LOC110261409	LOC110261964	LOC110262184	MAOA	MAOB	PTGS1	PTGS2	UCHL1	UCHL3	XDH
H	ACTB	B2M	GAPDH	HPRT1	RPL13A	SGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Ssc.14069	NM_001243939	ADH1C	Alcohol dehydrogenase 1C (class I), gamma polypeptide
A02	N/A	NM_001315670	ADH4	Alcohol dehydrogenase 4
A03	Ssc.4764	NM_001244833	ADH5	Alcohol dehydrogenase 5 (class III), chi polypeptide
A04	N/A	XM_013998428	ADH7	Alcohol dehydrogenase class 4 mu/sigma chain-like
A05	Ssc.6928	XM_013993622	ALDH1A1	Retinal dehydrogenase 1-like
A06	Ssc.87537	XM_005659561	ALDH1A2	Aldehyde dehydrogenase 1 family member A2
A07	N/A	XM_013993236	ALDH1A3	Aldehyde dehydrogenase 1 family member A3
A08	Ssc.84202	XM_003353586	ALDH1B1	Aldehyde dehydrogenase 1 family, member B1
A09	Ssc.11147	NM_001044611	ALDH2	Aldehyde dehydrogenase 2 family (mitochondrial)
A10	N/A	XM_013981361	ALDH3A1	Aldehyde dehydrogenase 3 family, member A1
A11	Ssc.5884	XM_003132032	ALDH3A2	Fatty aldehyde dehydrogenase-like
A12	Ssc.79550	NM_001315593	ALDH3B1	Aldehyde dehydrogenase 3 family member B1
B01	Ssc.54494	NM_001252213	ALDH4A1	Aldehyde dehydrogenase 4 family member A1
B02	Ssc.27232	NM_001244467	ALDH5A1	Aldehyde dehydrogenase 5 family, member A1
B03	Ssc.32192	XM_005656399	ALDH6A1	Aldehyde dehydrogenase 6 family, member A1
B04	Ssc.11751	XM_013995069	ALDH7A1	Aldehyde dehydrogenase 7 family member A1
B05	N/A	XM_013988074	ALDH8A1	Aldehyde dehydrogenase 8 family member A1
B06	Ssc.3723	XM_005663148	ALDH9A1	Aldehyde dehydrogenase 9 family, member A1
B07	N/A	XM_003353694	CEL	Carboxyl ester lipase (bile salt-stimulated lipase)
B08	Ssc.8776	NM_214427	CYP11A1	Cytochrome P450, family 11, subfamily A, polypeptide 1
B09	Ssc.51528	NM_214428	CYP17A1	Cytochrome P450 17A1
B10	Ssc.56422	NM_214429	CYP19A1	Cytochrome P450 19A1
B11	Ssc.82444	NM_214412	CYP1A1	Cytochrome P450 1A1
B12	Ssc.84322	NM_001159614	CYP1A2	Cytochrome P450, family 1, subfamily A, polypeptide 2

Position	UniGene	GenBank	Symbol	Description
C01	Ssc.50259	XM_013992312	CYP20A1	Cytochrome P450, family 20, subfamily A, polypeptide 1
C02	Ssc.52818	NM_214433	CYP21A2	Cytochrome P450, family 21, subfamily A, polypeptide 2
C03	Ssc.268	NM_214075	CYP24A1	Cytochrome P450, family 24, subfamily A, polypeptide 1
C04	Ssc.97040	XM_003483530	CYP26A1	Cytochrome P450, family 26, subfamily A, polypeptide 1
C05	Ssc.3804	NM_001243304	CYP27A1	Cytochrome P450, family 27, subfamily A, polypeptide 1
C06	Ssc.16	NM_213995	CYP27B1	25-hydroxyvitamin D3 1alpha-hydroxylase
C07	Ssc.15742	NM_214417	CYP2A19	Cytochrome P450 2A19
C08	Ssc.11267	NM_214413	CYP2B22	Cytochrome P450 2B22
C09	Ssc.4617	NM_214394	CYP2D25	Vitamin D3 25-Hydroxylase
C10	Ssc.15741	NM_214421	CYP2E1	Cytochrome P450, family 2, subfamily E, polypeptide 1
C11	Ssc.80416	NM_001244633	CYP2J34	Cytochrome P450, family 2, subfamily J, polypeptide 34
C12	Ssc.15486	XM_003480731	CYP2R1	Cytochrome P450, family 2, subfamily R, polypeptide 1
D01	Ssc.81969	NM_001195509	CYP3A22	Cytochrome P450, subfamily IIIA, polypeptide 22
D02	Ssc.204	NM_214423	CYP3A29	Cytochrome P450 3A29
D03	Ssc.203	NM_214422	CYP3A39	Cytochrome P450 3A39
D04	Ssc.203	NM_001134824	CYP3A46	Cytochrome P450 3A46
D05	Ssc.15895	NM_214425	CYP4A21	Cytochrome P450, family 4, subfamily A, polypeptide 21
D06	Ssc.51897	XM_003123433	CYP4F2	Cytochrome P450, family 4, subfamily F, polypeptide 2
D07	Ssc.51897	NM_001244636	CYP4F55	Cytochrome P450, family 4, subfamily F, polypeptide 55
D08	Ssc.28948	XM_013984059	CYP4V2	Cytochrome P450, family 4, subfamily v, polypeptide 2
D09	Ssc.30521	NM_001005352	CYP7A1	Cytochrome P450, family 7, subfamily A, polypeptide 1
D10	Ssc.75265	XM_013996723	CYP7B1	Cytochrome P450, family 7, subfamily B, polypeptide 1
D11	Ssc.42789	NM_214426	CYP8B1	Cytochrome P-450 8B1
D12	Ssc.153	NM_214044	DPYD	Dihydropyrimidine dehydrogenase
E01	Ssc.217	NM_214060	ESD	Esterase D
E02	Ssc.229	NM_214064	FMO1	Flavin containing monooxygenase 1
E03	N/A	XM_003130104	FMO2	Dimethylaniline monooxygenase [N-oxide-forming] 2-like
E04	Ssc.45970	XM_003130094	FMO3	Dimethylaniline monooxygenase [N-oxide-forming] 3-like
E05	Ssc.98212	XM_005656647	FMO4	Dimethylaniline monooxygenase [N-oxide-forming] 4
E06	Ssc.96266	XM_001928594	FMO5	Flavin containing monooxygenase 5
E07	Ssc.53099	NM_001143709	GZMA	Granzyme A (granzyme 1, cytotoxic T-lymphocyte-associated serine esterase 3)
E08	Ssc.4939	NM_001143710	GZMB	Granzyme B (granzyme 2, cytotoxic T-lymphocyte-associated serine esterase 1)
E09	Ssc.1301	XM_003135126	HSD17B10	3-hydroxyacyl-CoA dehydrogenase type-2-like
E10	N/A	XM_003125033	LOC100521659	Cytochrome P450 26B1-like
E11	N/A	XM_013987674	LOC100522669	Cytochrome P450 2W1-like
E12	N/A	XM_005655855	LOC100523190	Cytochrome P450 2F1-like
F01	Ssc.93967	XM_003128017	LOC100523909	Cytochrome P450 4B1-like
F02	N/A	XM_003354125	LOC100620265	Cytochrome P450 4F22-like
F03	N/A	XM_003361542	LOC100623616	Arylacetamide deacetylase-like
F04	N/A	XM_013983577	LOC100624257	Cytochrome P450 2C42-like

Position	UniGene	GenBank	Symbol	Description
F05	Ssc.44467	XM_013991464	LOC100625479	Cytochrome P450 1B1-like
F06	N/A	XM_013998513	LOC100737508	Cytochrome P450 2G1
F07	N/A	XM_003483531	LOC100739552	Cytochrome P450 26C1
F08	N/A	XM_013998511	LOC102165015	Cytochrome P450 2B11-like
F09	N/A	XM_013998507	LOC106510546	Cytochrome P450 2S1
F10	N/A	XM_021074021	LOC110256857	Cytochrome P450 2C9-like
F11	N/A	XM_021083598	LOC110259328	Phylloquinone omega-hydroxylase CYP4F2-like
F12	N/A	XM_021083606	LOC110259329	Docosahexaenoic acid omega-hydroxylase CYP4F3-like
G01	N/A	XM_021086162	LOC110259856	Cytochrome P450 3A29-like
G02	N/A	XM_021088772	LOC110260194	Cytochrome P450 11B1, mitochondrial
G03	N/A	XM_021097627	LOC110261409	Cytochrome P450 4A25-like
G04	N/A	XM_021100552	LOC110261964	Alcohol dehydrogenase 6-like
G05	N/A	XM_021101730	LOC110262184	Alcohol dehydrogenase 1-like
G06	Ssc.7297	NM_001001640	MAOA	Monoamine oxidase A
G07	Ssc.7297	NM_001001864	MAOB	Monoamine oxidase B
G08	Ssc.1986	XM_001926129	PTGS1	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)
G09	Ssc.23994	NM_214321	PTGS2	Prostaglandin G/H synthase-2
G10	Ssc.2073	NM_213763	UCHL1	Ubiquitin carboxyl-terminal esterase L1 (ubiquitin thiolesterase)
G11	Ssc.13668	NM_001077227	UCHL3	Ubiquitin carboxyl-terminal esterase L3 (ubiquitin thiolesterase)
G12	Ssc.30588	NM_001285974	XDH	Xanthine dehydrogenase
H01	Ssc.10316	XM_003124280	ACTB	Actin, beta
H02	Ssc.73773	NM_213978	B2M	Beta-2-microglobulin
H03	Ssc.16135	NM_001206359	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Ssc.4158	NM_001032376	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Ssc.27927	NM_001244068	RPL13A	Ribosomal protein L13a
H06	N/A	SA_00133	SGDC	Pig 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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