RT² Profiler PCR Array (Rotor-Gene® Format)

Pig Drug Metabolism: Phase I Enzymes

Cat. no. 330231 PASS-068ZR

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 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 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
1	Ssc.14069	NM_001243939	ADH1C	Alcohol dehydrogenase 1C (class I), gamma polypeptide
2	N/A	NM_001315670	ADH4	Alcohol dehydrogenase 4
3	Ssc.4764	NM_001244833	ADH5	Alcohol dehydrogenase 5 (class III), chi polypeptide
4	N/A	XM_013998428	ADH7	Alcohol dehydrogenase class 4 mu/sigma chain-like
5	Ssc.6928	XM_013993622	ALDH1A1	Retinal dehydrogenase 1-like
6	Ssc.87537	XM_005659561	ALDH1A2	Aldehyde dehydrogenase 1 family member A2
7	N/A	XM_013993236	ALDH1A3	Aldehyde dehydrogenase 1 family member A3
8	Ssc.84202	XM_003353586	ALDH1B1	Aldehyde dehydrogenase 1 family, member B1
9	Ssc.11147	NM_001044611	ALDH2	Aldehyde dehydrogenase 2 family (mitochondrial)
10	N/A	XM_013981361	ALDH3A1	Aldehyde dehydrogenase 3 family, member A1
11	Ssc.5884	XM_003132032	ALDH3A2	Fatty aldehyde dehydrogenase-like
12	Ssc.79550	NM_001315593	ALDH3B1	Aldehyde dehydrogenase 3 family member B1
13	Ssc.54494	NM_001252213	ALDH4A1	Aldehyde dehydrogenase 4 family member A1
14	Ssc.27232	NM_001244467	ALDH5A1	Aldehyde dehydrogenase 5 family, member A1
15	Ssc.32192	XM_005656399	ALDH6A1	Aldehyde dehydrogenase 6 family, member A1
16	Ssc.11751	XM_013995069	ALDH7A1	Aldehyde dehydrogenase 7 family member A1
17	N/A	XM_013988074	ALDH8A1	Aldehyde dehydrogenase 8 family member A1
18	Ssc.3723	XM_005663148	ALDH9A1	Aldehyde dehydrogenase 9 family, member A1
19	N/A	XM_003353694	CEL	Carboxyl ester lipase (bile salt-stimulated lipase)
20	Ssc.8776	NM_214427	CYP11A1	Cytochrome P450, family 11, subfamily A, polypeptide 1
21	Ssc.51528	NM_214428	CYP17A1	Cytochrome P450 17A1
22	Ssc.56422	NM_214429	CYP19A1	Cytochrome P450 19A1
23	Ssc.82444	NM_214412	CYP1A1	Cytochrome P450 1A1
24	Ssc.84322	NM_001159614	CYP1A2	Cytochrome P450, family 1, subfamily A, polypeptide 2
25	Ssc.50259	XM_013992312	CYP20A1	Cytochrome P450, family 20, subfamily A, polypeptide 1
26	Ssc.52818	NM_214433	CYP21A2	Cytochrome P450, family 21, subfamily A, polypepide 2
27	Ssc.268	NM_214075	CYP24A1	Cytochrome P450, family 24, subfamily A, polypeptide 1
28	Ssc.97040	XM_003483530	CYP26A1	Cytochrome P450, family 26, subfamily A, polypeptide 1
29	Ssc.3804	NM_001243304	CYP27A1	Cytochrome P450, family 27, subfamily A, polypeptide 1
30	Ssc.16	NM_213995	CYP27B1	25-hydroxyvitamin D3 1alpha-hydroxylase
31	Ssc.15742	NM_214417	CYP2A19	Cytochrome P450 2A19
32	Ssc.11267	NM_214413	CYP2B22	Cytochrome P450 2B22
33	Ssc.4617	NM_214394	CYP2D25	Vitamin D3 25-Hydroxylase
34	Ssc.15741	NM_214421	CYP2E1	Cytochrome P450, family 2, subfamily E, polypeptide 1
35	Ssc.80416	NM_001244633	CYP2J34	Cytochrome P450, family 2, subfamily J, polypeptide 34
36	Ssc.15486	XM_003480731	CYP2R1	Cytochrome P450, family 2, subfamily R, polypeptide 1
37	Ssc.81969	NM_001195509	CYP3A22	Cytochrome P450, subfamily IIIA, polypeptide 22
38	Ssc.204	NM_214423	CYP3A29	Cytochrome P450 3A29

Position	UniGene	GenBank	Symbol	Description
39	Ssc.203	NM_214422	CYP3A39	Cytochrome P450 3A39
40	Ssc.203	NM_001134824	CYP3A46	Cytochrome P450 3A46
41	Ssc.15895	NM_214425	CYP4A21	Cytochrome P450, family 4, subfamily A, polypeptide 21
42	Ssc.51897	XM_003123433	CYP4F2	Cytochrome P450, family 4, subfamily F, polypeptide 2
43	Ssc.51897	NM_001244636	CYP4F55	Cytochrome P450, family 4, subfamily F, polypeptide 55
44	Ssc.28948	XM_013984059	CYP4V2	Cytochrome P450, family 4, subfamily v, polypeptide 2
45	Ssc.30521	NM_001005352	CYP7A1	Cytochrome P450, family 7, subfamily A, polypeptide 1
46	Ssc.75265	XM_013996723	CYP7B1	Cytochrome P450, family 7, subfamily B, polypeptide 1
47	Ssc.42789	NM_214426	CYP8B1	Cytochrome P-450 8B1
48	Ssc.153	NM_214044	DPYD	Dihydropyrimidine dehydrogenase
49	Ssc.217	NM_214060	ESD	Esterase D
50	Ssc.229	NM_214064	FMO1	Flavin containing monooxygenase 1
51	N/A	XM_003130104	FMO2	Dimethylaniline monooxygenase [N-oxide-forming] 2-like
52	Ssc.45970	XM_003130094	FMO3	Dimethylaniline monooxygenase [N-oxide-forming] 3-like
53	Ssc.98212	XM_005656647	FMO4	Dimethylaniline monooxygenase [N-oxide-forming] 4
54	Ssc.96266	XM_001928594	FMO5	Flavin containing monooxygenase 5
55	Ssc.53099	NM_001143709	GZMA	Granzyme A (granzyme 1, cytotoxic T-lymphocyte-associated serine esterase 3)
56	Ssc.4939	NM_001143710	GZMB	Granzyme B (granzyme 2, cytotoxic T-lymphocyte-associated serine esterase 1)
57	Ssc.1301	XM_003135126	HSD17B10	3-hydroxyacyl-CoA dehydrogenase type-2-like
58	N/A	XM_003125033	LOC100521659	Cytochrome P450 26B1-like
59	N/A	XM_013987674	LOC100522669	Cytochrome P450 2W1-like
60	N/A	XM_005655855	LOC100523190	Cytochrome P450 2F1-like
61	Ssc.93967	XM_003128017	LOC100523909	Cytochrome P450 4B1-like
62	N/A	XM_003354125	LOC100620265	Cytochrome P450 4F22-like
63	N/A	XM_003361542	LOC100623616	Arylacetamide deacetylase-like
64	N/A	XM_013983577	LOC100624257	Cytochrome P450 2C42-like
65	Ssc.44467	XM_013991464	LOC100625479	Cytochrome P450 1B1-like
66	N/A	XM_013998513	LOC100737508	Cytochrome P450 2G1
67	N/A	XM_003483531	LOC100739552	Cytochrome P450 26C1
68	N/A	XM_013998511	LOC102165015	Cytochrome P450 2B11-like
69	N/A	XM_013998507	LOC106510546	Cytochrome P450 2S1
70	N/A	XM_021074021	LOC110256857	Cytochrome P450 2C9-like
71	N/A	XM_021083598	LOC110259328	Phylloquinone omega-hydroxylase CYP4F2-like
72	N/A	XM_021083606	LOC110259329	Docosahexaenoic acid omega-hydroxylase CYP4F3-like
73	N/A	XM_021086162	LOC110259856	Cytochrome P450 3A29-like
74	N/A	XM_021088772	LOC110260194	Cytochrome P450 11B1, mitochondrial
75	N/A	XM_021097627	LOC110261409	Cytochrome P450 4A25-like
76	N/A	XM_021100552	LOC110261964	Alcohol dehydrogenase 6-like
77	N/A	XM_021101730	LOC110262184	Alcohol dehydrogenase 1-like
78	Ssc.7297	NM_001001640	MAOA	Monoamine oxidase A

Position	UniGene	GenBank	Symbol	Description
79	Ssc.7297	NM_001001864	MAOB	Monoamine oxidase B
80	Ssc.1986	XM_001926129	PTGS1	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)
81	Ssc.23994	NM_214321	PTGS2	Prostaglandin G/H synthase-2
82	Ssc.2073	NM_213763	UCHL1	Ubiquitin carboxyl-terminal esterase L1 (ubiquitin thiolesterase)
83	Ssc.13668	NM_001077227	UCHL3	Ubiquitin carboxyl-terminal esterase L3 (ubiquitin thiolesterase)
84	Ssc.30588	NM_001285974	XDH	Xanthine dehydrogenase
85	Ssc.10316	XM_003124280	ACTB	Actin, beta
86	Ssc.73773	NM_213978	B2M	Beta-2-microglobulin
87	Ssc.16135	NM_001206359	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
88	Ssc.4158	NM_001032376	HPRT1	Hypoxanthine phosphoribosyltransferase 1
89	Ssc.27927	NM_001244068	RPL13A	Ribosomal protein L13a
90	N/A	SA_00133	SGDC	Pig Genomic DNA Contamination
91	N/A	SA_00104	RTC	Reverse Transcription Control
92	N/A	SA_00104	RTC	Reverse Transcription Control
93	N/A	SA_00104	RTC	Reverse Transcription Control
94	N/A	SA_00103	PPC	Positive PCR Control
95	N/A	SA_00103	PPC	Positive PCR Control
96	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.

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