

# RT<sup>2</sup> Profiler PCR Array (Rotor-Gene® Format)

## Human PPAR Targets

Cat. no. 330231 PAHS-149ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT <sup>2</sup> Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

### Description

The Human PPAR Targets RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes involved in peroxisome proliferator-activated receptor (PPAR) activation and response. The PPARs are nuclear hormone receptors important in regulating lipid metabolism, cellular differentiation, and proliferation. The 3 PPAR isoforms have similar functions but different tissue distributions: alpha (adipose tissue, liver, and muscle), beta/delta (widely-expressed), and gamma (adipose tissue and muscle). Ligands such as fatty acids activate these receptors causing them to heterodimerize with the retinoid X receptors (RXR) and initiate transcription of target genes. Multiple different coactivators and corepressors interact with the PPAR/RXR heterodimers to direct target gene specificity. Dysregulation of PPAR activity is a potential cause of metabolic syndrome-related disorders, such as insulin resistance and hypercholesterolemia. This array includes PPAR targets involved in adipogenesis, lipid transport and metabolism, and insulin signaling. Genes involved in PPAR ligand transport as well as transcription factors and cofactors are also included. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in PPAR signal transduction with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

### Shipping and storage

RT<sup>2</sup> 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 RT<sup>2</sup> Profiler PCR Array format for your real-time

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cycler (see table above).

**Note:** Open the package and store the products appropriately immediately on receipt.



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## 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: RT<sup>2</sup> Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Hs.200136	NM_006111	ACAA2	Acetyl-CoA acyltransferase 2
A02	Hs.471277	NM_001608	ACADL	Acyl-CoA dehydrogenase, long chain
A03	Hs.445040	NM_000016	ACADM	Acyl-CoA dehydrogenase, C-4 to C-12 straight chain
A04	Hs.464137	NM_004035	ACOX1	Acyl-CoA oxidase 1, palmitoyl
A05	Hs.479122	NM_003501	ACOX3	Acyl-CoA oxidase 3, pristanoyl
A06	Hs.406678	NM_001995	ACSL1	Acyl-CoA synthetase long-chain family member 1
A07	Hs.655772	NM_004457	ACSL3	Acyl-CoA synthetase long-chain family member 3
A08	Hs.268785	NM_004458	ACSL4	Acyl-CoA synthetase long-chain family member 4
A09	Hs.11638	NM_016234	ACSL5	Acyl-CoA synthetase long-chain family member 5
A10	Hs.80485	NM_004797	ADIPOQ	Adiponectin, C1Q and collagen domain containing
A11	Hs.9613	NM_001039667	ANGPTL4	Angiotensin-like 4
A12	Hs.633003	NM_000039	APOA1	Apolipoprotein A-I
B01	Hs.283923	NM_052968	APOA5	Apolipoprotein A-V
B02	Hs.73849	NM_000040	APOC3	Apolipoprotein C-III
B03	Hs.654439	NM_000041	APOE	Apolipoprotein E
B04	Hs.120949	NM_000072	CD36	CD36 molecule (thrombospondin receptor)
B05	Hs.59159	NM_025134	CHD9	Chromodomain helicase DNA binding protein 9
B06	Hs.436657	NM_001831	CLU	Clusterin
B07	Hs.503043	NM_001876	CPT1A	Carnitine palmitoyltransferase 1A (liver)
B08	Hs.439777	NM_004377	CPT1B	Carnitine palmitoyltransferase 1B (muscle)
B09	Hs.705379	NM_000098	CPT2	Carnitine palmitoyltransferase 2
B10	Hs.516646	NM_004379	CREB1	CAMP responsive element binding protein 1
B11	Hs.459759	NM_004380	CREBBP	CREB binding protein
B12	Hs.516700	NM_000784	CYP27A1	Cytochrome P450, family 27, subfamily A, polypeptide 1
C01	Hs.1645	NM_000778	CYP4A11	Cytochrome P450, family 4, subfamily A, polypeptide 11
C02	Hs.1644	NM_000780	CYP7A1	Cytochrome P450, family 7, subfamily A, polypeptide 1
C03	Hs.613075	NM_012079	DGAT1	Diacylglycerol O-acyltransferase 1
C04	Hs.196176	NM_001398	ECH1	Enoyl CoA hydratase 1, peroxisomal
C05	Hs.429879	NM_001966	EHHADH	Enoyl-CoA, hydratase/3-hydroxyacyl CoA dehydrogenase
C06	Hs.647061	NM_000501	ELN	Elastin
C07	Hs.517517	NM_001429	EP300	E1A binding protein p300
C08	Hs.155729	NM_004453	ETFDH	Electron-transferring-flavoprotein dehydrogenase
C09	Hs.380135	NM_001443	FABP1	Fatty acid binding protein 1, liver
C10	Hs.282265	NM_000134	FABP2	Fatty acid binding protein 2, intestinal
C11	Hs.657242	NM_004102	FABP3	Fatty acid binding protein 3, muscle and heart (mammary-derived growth inhibitor)
C12	Hs.391561	NM_001442	FABP4	Fatty acid binding protein 4, adipocyte
D01	Hs.408061	NM_001444	FABP5	Fatty acid binding protein 5 (psoriasis-associated)
D02	Hs.519719	NM_001445	FABP6	Fatty acid binding protein 6, ileal
D03	Hs.26770	NM_001446	FABP7	Fatty acid binding protein 7, brain
D04	Hs.502745	NM_004265	FADS2	Fatty acid desaturase 2
D05	Hs.1422	NM_005248	FGR	Gardner-Rasheed feline sarcoma viral (v-fgr) oncogene homolog
D06	Hs.1466	NM_000167	GK	Glycerol kinase
D07	Hs.597216	NM_001530	HIF1A	Hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)
D08	Hs.59889	NM_005518	HMGCS2	3-hydroxy-3-methylglutaryl-CoA synthase 2 (mitochondrial)
D09	Hs.5158	NM_004517	ILK	Integrin-linked kinase
D10	Hs.435001	NM_005655	KLF10	Kruppel-like factor 10
D11	Hs.467740	NM_145693	LPIN1	Lipin 1
D12	Hs.180878	NM_000237	LPL	Lipoprotein lipase
E01	Hs.643754	NM_004774	MED1	Mediator complex subunit 1
E02	Hs.644610	NM_012213	MLYCD	Malonyl-CoA decarboxylase
E03	Hs.297413	NM_004994	MMP9	Matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)
E04	Hs.592142	NM_181659	NCOA3	Nuclear receptor coactivator 3
E05	Hs.368971	NM_014071	NCOA6	Nuclear receptor coactivator 6
E06	Hs.438863	NM_005693	NR1H3	Nuclear receptor subfamily 1, group H, member 3

Position	UniGene	GenBank	Symbol	Description
E07	Hs.412484	NM_002543	OLR1	Oxidized low density lipoprotein (lectin-like) receptor 1
E08	Hs.1872	NM_002591	PCK1	Phosphoenolpyruvate carboxykinase 1 (soluble)
E09	Hs.75812	NM_004563	PCK2	Phosphoenolpyruvate carboxykinase 2 (mitochondrial)
E10	Hs.459691	NM_002613	PDPK1	3-phosphoinositide dependent protein kinase-1
E11	Hs.439312	NM_006227	PLTP	Phospholipid transfer protein
E12	Hs.103110	NM_005036	PPARA	Peroxisome proliferator-activated receptor alpha
F01	Hs.696032	NM_006238	PPARD	Peroxisome proliferator-activated receptor delta
F02	Hs.162646	NM_015869	PPARG	Peroxisome proliferator-activated receptor gamma
F03	Hs.527078	NM_013261	PPARGC1A	Peroxisome proliferator-activated receptor gamma, coactivator 1 alpha
F04	Hs.591261	NM_133263	PPARGC1B	Peroxisome proliferator-activated receptor gamma, coactivator 1 beta
F05	Hs.533551	NM_015062	PPRC1	Peroxisome proliferator-activated receptor gamma, coactivator-related 1
F06	Hs.517180	NM_033405	PRIC285	Peroxisomal proliferator-activated receptor A interacting complex 285
F07	Hs.500466	NM_000314	PTEN	Phosphatase and tensin homolog
F08	Hs.590886	NM_002957	RXRA	Retinoid X receptor, alpha
F09	Hs.388034	NM_021976	RXRB	Retinoid X receptor, beta
F10	Hs.26550	NM_006917	RXRG	Retinoid X receptor, gamma
F11	Hs.558396	NM_005063	SCD	Stearoyl-CoA desaturase (delta-9-desaturase)
F12	Hs.369779	NM_012238	SIRT1	Sirtuin 1
G01	Hs.443572	NM_003060	SLC22A5	Solute carrier family 22 (organic cation/carnitine transporter), member 5
G02	Hs.363138	NM_198580	SLC27A1	Solute carrier family 27 (fatty acid transporter), member 1
G03	Hs.11729	NM_003645	SLC27A2	Solute carrier family 27 (fatty acid transporter), member 2
G04	Hs.656699	NM_005094	SLC27A4	Solute carrier family 27 (fatty acid transporter), member 4
G05	Hs.292177	NM_012254	SLC27A5	Solute carrier family 27 (fatty acid transporter), member 5
G06	Hs.49765	NM_014031	SLC27A6	Solute carrier family 27 (fatty acid transporter), member 6
G07	Hs.647067	NM_003078	SMARCD3	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3
G08	Hs.38621	NM_006434	SORBS1	Sorbin and SH3 domain containing 1
G09	Hs.195659	NM_005417	SRC	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)
G10	Hs.335068	NM_024831	TGS1	Trimethylguanosine synthase 1
G11	Hs.533977	NM_006472	TXNIP	Thioredoxin interacting protein
G12	Hs.249211	NM_021833	UCP1	Uncoupling protein 1 (mitochondrial, proton carrier)
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, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT <sup>2</sup> First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT <sup>2</sup> 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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RT<sup>2</sup> 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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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