RT² Profiler PCR Array (Rotor-Gene® Format)

Rat PPAR Targets

Cat. no. 330231 PARN-149ZR

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 Rat PPAR Targets RT² 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 *RT² Profiler PCR Array Handbook*.

Shipping and storage

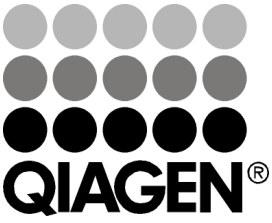
RT² Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

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
A01	Rn.3786	NM_130433	Acaa2	Acetyl-Coenzyme A acyltransferase 2
A02	Rn.174	NM_012819	Acadl	Acyl-Coenzyme A dehydrogenase, long-chain
A03	Rn.6302	NM_016986	Acadm	Acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain
A04	Rn.31796	NM_017340	Acox1	Acyl-Coenzyme A oxidase 1, palmitoyl
A05	Rn.10546	NM_053339	Acox3	Acyl-Coenzyme A oxidase 3, pristanoyl
A06	Rn.6215	NM_012820	Acsl1	Acyl-CoA synthetase long-chain family member 1
A07	Rn.54820	NM_057107	Acsl3	Acyl-CoA synthetase long-chain family member 3
A08	Rn.87821	NM_053623	Acsl4	Acyl-CoA synthetase long-chain family member 4
A09	Rn.105862	NM_053607	Acsl5	Acyl-CoA synthetase long-chain family member 5
A10	Rn.24299	NM_144744	Adipoq	Adiponectin, C1Q and collagen domain containing
A11	Rn.119611	NM_199115	Angptl4	Angiopoietin-like 4
A12	Rn.10308	NM_012738	Apoa1	Apolipoprotein A-I
B01	Rn.48763	NM_080576	Apoa5	Apolipoprotein A-V
B02	Rn.195323	NM_012501	Apoc3	Apolipoprotein C-III
B03	Rn.32351	NM_138828	Apoe	Apolipoprotein E
B04	Rn.11111	NM_019157	Aqp7	Aquaporin 7
B05	Rn.102418	NM_031561	Cd36	CD36 molecule (thrombospondin receptor)
B06	Rn.1780	NM_053021	Clu	Clusterin
B07	Rn.2856	NM_031559	Cpt1a	Carnitine palmitoyltransferase 1a, liver
B08	Rn.6028	NM_013200	Cpt1b	Carnitine palmitoyltransferase 1b, muscle
B09	Rn.11389	NM_012930	Cpt2	Carnitine palmitoyltransferase 2
B10	Rn.90061	NM_031017	Creb1	CAMP responsive element binding protein 1
B11	Rn.108128	NM_133381	Crebbp	CREB binding protein
B12	Rn.94956	NM_178847	Cyp27a1	Cytochrome P450, family 27, subfamily a, polypeptide 1
C01	Rn.10737	NM_012942	Cyp7a1	Cytochrome P450, family 7, subfamily a, polypeptide 1
C02	Rn.252	NM_053437	Dgat1	Diacylglycerol O-acyltransferase homolog 1 (mouse)
C03	Rn.6148	NM_022594	Ech1	Enoyl coenzyme A hydratase 1, peroxisomal
C04	Rn.3671	NM_133606	Ehhadh	Enoyl-Coenzyme A, hydratase/3-hydroxyacyl Coenzyme A dehydrogenase
C05	Rn.54384	NM_012722	Eln	Elastin
C06	Rn.12447	XM_576312	Ep300	E1A binding protein p300
C07	Rn.37277	NM_198742	Etfdh	Electron-transferring-flavoprotein dehydrogenase
C08	Rn.36412	NM_012556	Fabp1	Fatty acid binding protein 1, liver
C09	Rn.91358	NM_013068	Fabp2	Fatty acid binding protein 2, intestinal
C10	Rn.32566	NM_024162	Fabp3	Fatty acid binding protein 3, muscle and heart
C11	Rn.4258	NM_053365	Fabp4	Fatty acid binding protein 4, adipocyte
C12	Rn.98269	NM_145878	Fabp5	Fatty acid binding protein 5, epidermal
D01	Rn.10008	NM_017098	Fabp6	Fatty acid binding protein 6, ileal
D02	Rn.10014	NM_030832	Fabp7	Fatty acid binding protein 7, brain
D03	Rn.162483	NM_031344	Fads2	Fatty acid desaturase 2
D04	Rn.11309	NM_024145	Fgr	Gardner-Rasheed feline sarcoma viral (v-fgr) oncogene homolog
D05	Rn.153497	NM_024381	Gk	Glycerol kinase
D06	Rn.10852	NM_024359	Hif1a	Hypoxia-inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)
D07	Rn.29594	NM_173094	Hmgcs2	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 2 (mitochondrial)
D08	Rn.102058	NM_022229	Hspd1	Heat shock protein 1 (chaperonin)
D09	Rn.95042	NM_133409	Ilk	Integrin-linked kinase
D10	Rn.2398	NM_031135	Klf10	Kruppel-like factor 10
D11	Rn.214286	NM_001012111	Lpin1	Lipin 1
D12	Rn.3834	NM_012598	Lpl	Lipoprotein lipase
E01	Rn.4262	NM_001134361	Med1	Mediator complex subunit 1
E02	Rn.13468	NM_053477	Mlycd	Malonyl-CoA decarboxylase
E03	Rn.10209	NM_031055	Mmp9	Matrix metallopeptidase 9
E04	Rn.20691	XM_215947	Ncoa3	Nuclear receptor coactivator 3
E05	Rn.9077	XM_342552	Ncoa6	Nuclear receptor coactivator 6
E06	Rn.11209	NM_031627	Nr1h3	Nuclear receptor subfamily 1, group H, member 3
E07	Rn.87449	NM_133306	Olr1	Oxidized low density lipoprotein (lectin-like) receptor 1
E08	Rn.104376	NM_198780	Pck1	Phosphoenolpyruvate carboxykinase 1 (soluble)

Position	UniGene	GenBank	Symbol	Description
E09	Rn.35508	NM_001108377	Pck2	Phosphoenolpyruvate carboxykinase 2 (mitochondrial)
E10	Rn.10905	NM_031081	Pdpk1	3-phosphoinositide dependent protein kinase-1
E11	Rn.117434	NM_001168543	Pltp	Phospholipid transfer protein
E12	Rn.9753	NM_013196	Ppara	Peroxisome proliferator activated receptor alpha
F01	Rn.96181	NM_013141	Ppard	Peroxisome proliferator-activated receptor delta
F02	Rn.23443	NM_013124	Pparg	Peroxisome proliferator-activated receptor gamma
F03	Rn.19172	NM_031347	Ppargc1a	Peroxisome proliferator-activated receptor gamma, coactivator 1 alpha
F04	Rn.163382	NM_176075	Ppargc1b	Peroxisome proliferator-activated receptor gamma, coactivator 1 beta
F05	Rn.9484	NM_001106363	Pprc1	Peroxisome proliferator-activated receptor gamma, coactivator-related 1
F06	Rn.22158	NM_031606	Pten	Phosphatase and tensin homolog
F07	Rn.13173	NM_001034080	Pyy	Peptide YY (mapped)
F08	Rn.108206	NM_012805	Rxra	Retinoid X receptor alpha
F09	Rn.49295	NM_206849	Rxrb	Retinoid X receptor beta
F10	Rn.40816	NM_031765	Rxrg	Retinoid X receptor gamma
F11	Rn.1023	NM_139192	Scd1	Stearoyl-Coenzyme A desaturase 1
F12	Rn.219976	NM_001107627	Sirt1	Sirtuin (silent mating type information regulation 2 homolog) 1 (S. cerevisiae)
G01	Rn.8844	NM_019269	Slc22a5	Solute carrier family 22 (organic cation/carnitine transporter), member 5
G02	Rn.1047	NM_053580	Slc27a1	Solute carrier family 27 (fatty acid transporter), member 1
G03	Rn.3608	NM_031736	Slc27a2	Solute carrier family 27 (fatty acid transporter), member 2
G04	Rn.145068	XM_231115	Slc27a4	Solute carrier family 27 (fatty acid transporter), member 4
G05	Rn.207896	NM_024143	Slc27a5	Solute carrier family 27 (fatty acid transporter), member 5
G06	Rn.53815	NM_001106145	Slc27a6	Solute carrier family 27 (fatty acid transporter), member 6
G07	Rn.20043	NM_001011966	Smarcd3	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3
G08	Rn.110441	XM_001066536	Sorbs1	Sorbin and SH3 domain containing 1
G09	Rn.112600	NM_031977	Src	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)
G10	Rn.48378	NM_001107904	Tgs1	Trimethylguanosine synthase homolog (S. cerevisiae)
G11	Rn.2758	NM_001008767	Txnip	Thioredoxin interacting protein
G12	Rn.10281	NM_012682	Ucp1	Uncoupling protein 1 (mitochondrial, proton carrier)
H01	Rn.94978	NM_031144	Actb	Actin, beta
H02	Rn.1868	NM_012512	B2m	Beta-2 microglobulin
H03	Rn.47	NM_012583	Hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H06	N/A	U26919	RGDC	Rat 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 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.

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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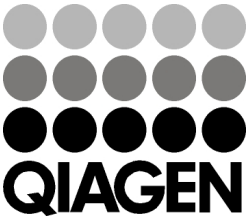

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