

RT² Profiler PCR Array (Rotor-Gene[®] Format)

Mouse Glucose Metabolism

Cat. no. 330231 PAMM-006ZR

For pathway expression analysis

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

Description

The Mouse Glucose Metabolism RT² Profiler PCR Array profiles the expression of 84 key genes involved in the regulation and enzymatic pathways of glucose and glycogen metabolism. Glycolysis, the TCA cycle and the pentose phosphate pathways break down glucose from carbohydrates into the metabolites necessary for energy production, and gluconeogenesis stores excess energy as glucose. Cells, particularly in skeletal muscle and the liver, store excess glucose as the polysaccharide glycogen, and quickly metabolize it again when necessary. Changes in glucose metabolism gene expression are common in cancerous tissues. Specifically, tumors often show decreased oxidative phosphorylation, even in the presence of sufficient oxygen, due to enhanced transcription of glycolytic genes and/or reduced transcription of TCA cycle genes. In addition, the pathological consequences of diabetes and obesity involve gene expression changes in glucose metabolic pathways. In one notable example, PCK1 overexpression in mice leads to obesity. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in glucose metabolism with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

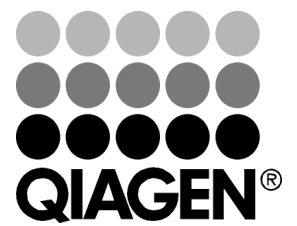
Shipping and storage

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.



Sample & Assay Technologies

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	Mm.282039	NM_134037	Acly	ATP citrate lyase
A02	Mm.331547	NM_007386	Aco1	Aconitase 1
A03	Mm.154581	NM_080633	Aco2	Aconitase 2, mitochondrial
A04	Mm.237099	NM_001081326	Agl	Amylo-1,6-glucosidase, 4-alpha-glucanotransferase
A05	Mm.275831	NM_007438	Aldoa	Aldolase A, fructose-bisphosphate
A06	Mm.482116	NM_144903	Aldob	Aldolase B, fructose-bisphosphate
A07	Mm.7729	NM_009657	Aldoc	Aldolase C, fructose-bisphosphate
A08	Mm.282863	NM_007563	Bpgm	2,3-bisphosphoglycerate mutase
A09	Mm.58836	NM_026444	Cs	Citrate synthase
A10	Mm.285076	NM_145614	Dlat	Dihydrolipoamide S-acetyltransferase (E2 component of pyruvate dehydrogenase complex)
A11	Mm.3131	NM_007861	Dld	Dihydrolipoamide dehydrogenase
A12	Mm.296221	NM_030225	Dlst	Dihydrolipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex)
B01	Mm.70666	NM_023119	Eno1	Enolase 1, alpha non-neuron
B02	Mm.3913	NM_013509	Eno2	Enolase 2, gamma neuronal
B03	Mm.251322	NM_007933	Eno3	Enolase 3, beta muscle
B04	Mm.423078	NM_019395	Fbp1	Fructose biphosphatase 1
B05	Mm.391871	NM_007994	Fbp2	Fructose biphosphatase 2
B06	Mm.41502	NM_010209	Fh1	Fumarate hydratase 1
B07	Mm.18064	NM_008061	G6pc	Glucose-6-phosphatase, catalytic
B08	Mm.22385	NM_175935	G6pc3	Glucose 6 phosphatase, catalytic, 3
B09	Mm.27210	NM_008062	G6pdx	Glucose-6-phosphate dehydrogenase X-linked
B10	Mm.29098	NM_176963	Galm	Galactose mutarotase
B11	Mm.436562	NM_008085	Gapdhs	Glyceraldehyde-3-phosphate dehydrogenase, spermatogenic
B12	Mm.396102	NM_028803	Gbe1	Glucan (1,4-alpha-), branching enzyme 1
C01	Mm.220358	NM_010292	Gck	Glucokinase
C02	Mm.589	NM_008155	Gpi1	Glucose phosphate isomerase 1
C03	Mm.476745	NM_001031667	Gsk3a	Glycogen synthase kinase 3 alpha
C04	Mm.394930	NM_019827	Gsk3b	Glycogen synthase kinase 3 beta
C05	Mm.275654	NM_030678	Gys1	Glycogen synthase 1, muscle
C06	Mm.275975	NM_145572	Gys2	Glycogen synthase 2
C07	Mm.22183	NM_173371	H6pd	Hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase)
C08	Mm.255848	NM_013820	Hk2	Hexokinase 2
C09	Mm.267479	NM_001033245	Hk3	Hexokinase 3
C10	Mm.9925	NM_010497	Idh1	Isocitrate dehydrogenase 1 (NADP+), soluble
C11	Mm.246432	NM_173011	Idh2	Isocitrate dehydrogenase 2 (NADP+), mitochondrial
C12	Mm.279195	NM_029573	Idh3a	Isocitrate dehydrogenase 3 (NAD+) alpha
D01	Mm.29590	NM_130884	Idh3b	Isocitrate dehydrogenase 3 (NAD+) beta
D02	Mm.14825	NM_008323	Idh3g	Isocitrate dehydrogenase 3 (NAD+), gamma
D03	Mm.212703	NM_008618	Mdh1	Malate dehydrogenase 1, NAD (soluble)
D04	Mm.30494	NM_029696	Mdh1b	Malate dehydrogenase 1B, NAD (soluble)
D05	Mm.297096	NM_008617	Mdh2	Malate dehydrogenase 2, NAD (mitochondrial)
D06	Mm.276348	NM_010956	Ogdh	Oxoglutarate dehydrogenase (lipoamide)
D07	Mm.266867	NM_011044	Pck1	Phosphoenolpyruvate carboxykinase 1, cytosolic
D08	Mm.29856	NM_028994	Pck2	Phosphoenolpyruvate carboxykinase 2 (mitochondrial)
D09	Mm.1845	NM_008797	Pcx	Pyruvate carboxylase
D10	Mm.34775	NM_008810	Pdha1	Pyruvate dehydrogenase E1 alpha 1
D11	Mm.301527	NM_024221	Pdhb	Pyruvate dehydrogenase (lipoamide) beta
D12	Mm.34411	NM_172665	Pdk1	Pyruvate dehydrogenase kinase, isoenzyme 1
E01	Mm.29768	NM_133667	Pdk2	Pyruvate dehydrogenase kinase, isoenzyme 2
E02	Mm.12775	NM_145630	Pdk3	Pyruvate dehydrogenase kinase, isoenzyme 3
E03	Mm.235547	NM_013743	Pdk4	Pyruvate dehydrogenase kinase, isoenzyme 4
E04	Mm.290750	NM_001024606	Pdp2	Pyruvate dehydrogenase phosphatase catalytic subunit 2
E05	Mm.370024	NM_198308	Pdpr	Pyruvate dehydrogenase phosphatase regulatory subunit
E06	Mm.269649	NM_008826	Pfk1	Phosphofructokinase, liver, B-type
E07	Mm.219627	NM_018870	Pgam2	Phosphoglycerate mutase 2

Position	UniGene	GenBank	Symbol	Description
E08	Mm.336205	NM_008828	Pgk1	Phosphoglycerate kinase 1
E09	Mm.717	NM_031190	Pgk2	Phosphoglycerate kinase 2
E10	Mm.2325	NM_025700	Pgm1	Phosphoglucomutase 1
E11	Mm.217764	NM_028132	Pgm2	Phosphoglucomutase 2
E12	Mm.390201	NM_028352	Pgm3	Phosphoglucomutase 3
F01	Mm.212889	NM_173021	Phka1	Phosphorylase kinase alpha 1
F02	Mm.237296	NM_199446	Phkb	Phosphorylase kinase beta
F03	Mm.3159	NM_011079	Phkg1	Phosphorylase kinase gamma 1
F04	Mm.274473	NM_026888	Phkg2	Phosphorylase kinase, gamma 2 (testis)
F05	Mm.383180	NM_013631	Pkfr	Pyruvate kinase liver and red blood cell
F06	Mm.287178	NM_021463	Prps1	Phosphoribosyl pyrophosphate synthetase 1
F07	Mm.79179	NM_029294	Prps111	Phosphoribosyl pyrophosphate synthetase 1-like 1
F08	Mm.272955	NM_026662	Prps2	Phosphoribosyl pyrophosphate synthetase 2
F09	Mm.256926	NM_133198	Pygl	Liver glycogen phosphorylase
F10	Mm.27806	NM_011224	Pygm	Muscle glycogen phosphorylase
F11	Mm.22519	NM_153196	Rbks	Ribokinase
F12	Mm.240912	NM_025683	Rpe	Ribulose-5-phosphate-3-epimerase
G01	Mm.17905	NM_009075	Rpia	Ribose 5-phosphate isomerase A
G02	Mm.158231	NM_023281	Sdha	Succinate dehydrogenase complex, subunit A, flavoprotein (Fp)
G03	Mm.246965	NM_023374	Sdhb	Succinate dehydrogenase complex, subunit B, iron sulfur (Ip)
G04	Mm.198138	NM_025321	Sdhc	Succinate dehydrogenase complex, subunit C, integral membrane protein
G05	Mm.10406	NM_025848	Sdhd	Succinate dehydrogenase complex, subunit D, integral membrane protein
G06	Mm.38951	NM_011506	Sucla2	Succinate-Coenzyme A ligase, ADP-forming, beta subunit
G07	Mm.29845	NM_019879	Suclg1	Succinate-CoA ligase, GDP-forming, alpha subunit
G08	Mm.371585	NM_011507	Suclg2	Succinate-Coenzyme A ligase, GDP-forming, beta subunit
G09	Mm.29182	NM_011528	Taldo1	Transaldolase 1
G10	Mm.290692	NM_009388	Tkt	Transketolase
G11	Mm.4222	NM_009415	Tpi1	Triosephosphate isomerase 1
G12	Mm.28877	NM_139297	Ugp2	UDP-glucose pyrophosphorylase 2
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.343110	NM_008084	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mm.3317	NM_010368	Gusb	Glucuronidase, beta
H05	Mm.2180	NM_008302	Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1
H06	N/A	SA_00106	MGDC	Mouse 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 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.

Trademarks: QIAGEN®, Rotor-Gene®, Rotor-Disc™ (QIAGEN Group); ROX™ (Applied Biosystems Corporation or its subsidiaries); SYBR® (Molecular Probes, Inc.).

1067688 03/2011 © 2011 QIAGEN, all rights reserved.

www.qiagen.com

Canada ■ 800-572-9613

China ■ 8621-3865-3865

Denmark ■ 80-885945

Finland ■ 0800-914416

France ■ 01-60-920-930

Germany ■ 02103-29-12000

Hong Kong ■ 800 933 965

Ireland ■ 1800 555 049

Italy ■ 800-787980

Japan ■ 03-6890-7300

Korea (South) ■ 080-000-7145

Luxembourg ■ 8002 2076

Mexico ■ 01-800-7742-436

The Netherlands ■ 0800 0229592

Norway ■ 800-18859

Singapore ■ 1800-742-4368

Spain ■ 91-630-7050

Sweden ■ 020-790282

Switzerland ■ 055-254-22-11

UK ■ 01293-422-911

USA ■ 800-426-8157

Australia ■ 1-800-243-800

Austria ■ 0800/281010

Belgium ■ 0800-79612

Brazil ■ 0800-557779



Sample & Assay Technologies