RT² Profiler PCR Array (Rotor-Gene® Format)

Mouse Adipogenesis

Cat. no. 330231 PAMM-049ZR

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 Mouse Adipogenesis RT² Profiler PCR Array profiles the expression of 84 key genes involved in the differentiation and maintenance of mature adipocytes. Preadipocytes differentiate into mature adipocytes and generally form adipose tissue in response to a positive energy balance. Adipose tissue not only stores energy, but is also a dynamic endocrine organ, important for hormone and cytokine (adipokine) secretion. White adipose tissue (WAT), located in abdominal and subcutaneous deposits in mammals, performs the majority of energy storage and adipokine secretion. Brown adipose tissue (BAT) mediates non-shivering thermogenesis, well-known to protect infants from cold exposure. Recent studies have also discovered significant BAT deposits in adults, which may play an important role in obesity and energy balance, leading to potential therapeutic options for metabolic syndrome and diabetes. The differentiation and maintenance of these two types of adipose tissue is interrelated, involving multiple signaling pathways and transcription factors whose expression varies over time. This array includes the major genes implicated in WAT and BAT adipogenesis, such as hormones, adipokines, enzymes, transcription factors (particularly PPAR gamma and the C/EBP family) and signal transduction ligands, essential for studying the complex interactions between WAT and BAT. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in adipogenesis 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	Mm.81793	NM_133904	Acacb	Acetyl-Coenzyme A carboxylase beta
A02	Mm.28800	NM_145635	Adig	Adipogenin
A03	Mm.3969	NM_009605	Adipoq	Adiponectin, C1Q and collagen domain containing
A04	Mm.5598	NM_007420	Adrb2	Adrenergic receptor, beta 2
A05	Mm.301626	NM_007428	Agt	Angiotensinogen (serpin peptidase inhibitor, clade A, member 8)
A06	Mm.439874	NM_007426	Angpt2	Angiopoietin 2
A07	Mm.23684	NM_009733	Axin1	Axin 1
A08	Mm.103205	NM_007553	Bmp2	Bone morphogenetic protein 2
A09	Mm.6813	NM_007554	Bmp4	Bone morphogenetic protein 4
A10	Mm.595	NM_007557	Bmp7	Bone morphogenetic protein 7
A11	Mm.273049	NM_007631	Ccnd1	Cyclin D1
A12	Mm.6839	NM_009870	Cdk4	Cyclin-dependent kinase 4
B01	Mm.195663	NM_007669	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)
B02	Mm.2958	NM_009875	Cdkn1b	Cyclin-dependent kinase inhibitor 1B
B03	Mm.349667	NM_007678	Cebpa	CCAAT/enhancer binding protein (C/EBP), alpha
B04	Mm.439656	NM_009883	Cebpb	CCAAT/enhancer binding protein (C/EBP), beta
B05	Mm.347407	NM_007679	Cebpd	CCAAT/enhancer binding protein (C/EBP), delta
B06	Mm.4407	NM_013459	Cfd	Complement factor D (adipsin)
B07	Mm.453295	NM_133828	Creb1	CAMP responsive element binding protein 1
B08	Mm.110220	NM_007837	Ddit3	DNA-damage inducible transcript 3
B09	Mm.21389	NM_010050	Dio2	Deiodinase, iodothyronine, type II
B10	Mm.214717	NM_010051	Dkk1	Dickkopf homolog 1 (Xenopus laevis)
B11	Mm.157069	NM_010052	Dlk1	Delta-like 1 homolog (Drosophila)
B12	Mm.18036	NM_007891	E2f1	E2F transcription factor 1
C01	Mm.290421	NM_010118	Egr2	Early growth response 2
C02	Mm.582	NM_024406	Fabp4	Fatty acid binding protein 4, adipocyte
C03	Mm.236443	NM_007988	Fasn	Fatty acid synthase
C04	Mm.241282	NM_010197	Fgf1	Fibroblast growth factor 1
C05	Mm.317323	NM_008002	Fgf10	Fibroblast growth factor 10
C06	Mm.473689	NM_008006	Fgf2	Fibroblast growth factor 2
C07	Mm.14092	NM_013519	Foxc2	Forkhead box C2
C08	Mm.29891	NM_019739	Foxo1	Forkhead box O1
C09	Mm.272747	NM_008090	Gata2	GATA binding protein 2
C10	Mm.313866	NM_008091	Gata3	GATA binding protein 3
C11	Mm.390859	NM_008235	Hes1	Hairy and enhancer of split 1 (Drosophila)
C12	Mm.268003	NM_010568	Insr	Insulin receptor
D01	Mm.4952	NM_010570	Irs1	Insulin receptor substrate 1
D02	Mm.407207	NM_001081212	Irs2	Insulin receptor substrate 2
D03	Mm.275071	NM_010591	Jun	Jun oncogene
D04	Mm.41389	NM_023184	Klf15	Kruppel-like factor 15
D05	Mm.26938	NM_008452	Klf2	Kruppel-like factor 2 (lung)
D06	Mm.392759	NM_008453	Klf3	Kruppel-like factor 3 (basic)
D07	Mm.4325	NM_010637	Klf4	Kruppel-like factor 4 (gut)
D08	Mm.277072	NM_008493	Lep	Leptin
D09	Mm.333679	NM_010719	Lipe	Lipase, hormone sensitive
D10	Mm.243014	NM_019390	Lmna	Lamin A
D11	Mm.1514	NM_008509	Lpl	Lipoprotein lipase
D12	Mm.274581	NM_008513	Lrp5	Low density lipoprotein receptor-related protein 5
E01	Mm.311337	NM_011951	Mapk14	Mitogen-activated protein kinase 14
E02	Mm.2537	NM_008678	Ncoa2	Nuclear receptor coactivator 2
E03	Mm.278646	NM_011424	Ncor2	Nuclear receptor co-repressor 2
E04	Mm.346759	NM_011850	Nr0b2	Nuclear receptor subfamily 0, group B, member 2
E05	Mm.22690	NM_013839	Nr1h3	Nuclear receptor subfamily 1, group H, member 3
E06	Mm.259258	NM_010938	Nrf1	Nuclear respiratory factor 1
E07	Mm.212789	NM_011144	Ppara	Peroxisome proliferator activated receptor alpha
E08	Mm.328914	NM_011145	Ppard	Peroxisome proliferator activator receptor delta
E09	Mm.3020	NM_011146	Pparg	Peroxisome proliferator activated receptor gamma

Position	UniGene	GenBank	Symbol	Description
E10	Mm.259072	NM_008904	Ppargc1a	Peroxisome proliferative activated receptor, gamma, coactivator 1 alpha
E11	Mm.415302	NM_133249	Ppargc1b	Peroxisome proliferative activated receptor, gamma, coactivator 1 beta
E12	Mm.257785	NM_027504	Prdm16	PR domain containing 16
F01	Mm.273862	NM_009029	Rb1	Retinoblastoma 1
F02	Mm.1181	NM_022984	Retn	Resistin
F03	Mm.470961	NM_009822	Runx1t1	Runt-related transcription factor 1; translocated to, 1 (cyclin D-related)
F04	Mm.24624	NM_011305	Rxra	Retinoid X receptor alpha
F05	Mm.281691	NM_013834	Sfrp1	Secreted frizzled-related protein 1
F06	Mm.470071	NM_018780	Sfrp5	Secreted frizzled-related sequence protein 5
F07	Mm.57202	NM_009170	Shh	Sonic hedgehog
F08	Mm.351459	NM_019812	Sirt1	Sirtuin 1 (silent mating type information regulation 2, homolog) 1 (S. cerevisiae)
F09	Mm.272443	NM_022432	Sirt2	Sirtuin 2 (silent mating type information regulation 2, homolog) 2 (S. cerevisiae)
F10	Mm.244216	NM_022433	Sirt3	Sirtuin 3 (silent mating type information regulation 2, homolog) 3 (S. cerevisiae)
F11	Mm.10661	NM_009204	Slc2a4	Solute carrier family 2 (facilitated glucose transporter), member 4
F12	Mm.22845	NM_009271	Src	Rous sarcoma oncogene
G01	Mm.278701	NM_011480	Srebf1	Sterol regulatory element binding transcription factor 1
G02	Mm.268483	NM_181516	Taz	Tafazzin
G03	Mm.139815	NM_009333	Tcf7l2	Transcription factor 7-like 2, T-cell specific, HMG-box
G04	Mm.485388	NM_010286	Tsc22d3	TSC22 domain family, member 3
G05	Mm.3280	NM_011658	Twist1	Twist homolog 1 (Drosophila)
G06	Mm.4177	NM_009463	Ucp1	Uncoupling protein 1 (mitochondrial, proton carrier)
G07	Mm.245084	NM_009504	Vdr	Vitamin D receptor
G08	Mm.1123	NM_021279	Wnt1	Wingless-related MMTV integration site 1
G09	Mm.4709	NM_011718	Wnt10b	Wingless related MMTV integration site 10b
G10	Mm.1367	NM_009522	Wnt3a	Wingless-related MMTV integration site 3A
G11	Mm.287544	NM_009524	Wnt5a	Wingless-related MMTV integration site 5A
G12	Mm.321818	NM_009525	Wnt5b	Wingless-related MMTV integration site 5B
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.
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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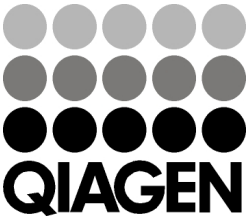

Sample & Assay Technologies