RT² Profiler PCR Array (Rotor-Gene® Format)

Mouse Male Infertility

Cat. no. 330231 PAMM-165ZR

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 Male Infertility RT² Profiler PCR Array profiles the expression of 84 key gene transcripts detected in spermatozoa. During spermatogenesis, primary sperm cells undergo meiosis, ultimately dividing and forming mature spermatozoa (sperm cells). Each sperm cell contains mRNA transcripts, although sperm are transcriptionally inactive. Initially, these mRNA transcripts were thought to be originally expressed by the primary sperm cells, and therefore a non-biologically relevant by-product of the spermatogenic process. However, recent studies have identified mRNAs differentially detected in the sperm of fertile males relative to infertile males. One hypothesis presumes that the initial stages of fertilization and embryogenesis require sperm-derived mRNAs. For example, epigenetic regulation of imprinted genes occurs during embryogenesis, and sperm-derived mRNAs expressing chromatin modification enzymes and remodeling factors may be necessary to complete this process. Sperm-derived mRNAs are also expressed in the testis. Therefore, the analysis of sperm mRNA, unlike a testicular biopsy, potentially provides a less-invasive method to research infertility in males. This array includes genes differentially detected in the sperm of fertile and infertile males. A set of controls present on each array enables data analysis using the ΔΔCT method of relative quantification, assessment of reverse transcription performance, genomic DNA contamination, and PCR performance. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in male infertility with this array.

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

Shipping and storage

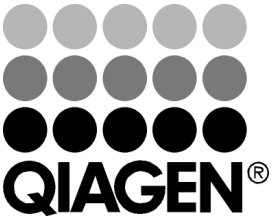
RT² Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on

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.179421	NM_001039114	Acsbg2	Acyl-CoA synthetase bubblegum family member 2
A02	Mm.66952	NM_173029	Adcy10	Adenylate cyclase 10
A03	Mm.341377	NM_013464	Ahr	Aryl-hydrocarbon receptor
A04	Mm.471848	NM_001033785	Akap14	A kinase (PRKA) anchor protein 14
A05	Mm.1498	NM_009651	Akap4	A kinase (PRKA) anchor protein 4
A06	Mm.376094	NM_007445	Amh	Anti-Mullerian hormone
A07	Mm.221239	NM_009693	Apob	Apolipoprotein B
A08	Mm.39005	NM_013476	Ar	Androgen receptor
A09	Mm.483408	NM_029267	Boll	Bol, boule-like (Drosophila)
A10	Mm.3444	NM_010238	Brd2	Bromodomain containing 2
A11	Mm.182836	NM_054054	Brdt	Bromodomain, testis-specific
A12	Mm.142095	NM_025821	Carhsp1	Calcium regulated heat stable protein 1
B01	Mm.87321	NM_139301	Catsper1	Cation channel, sperm associated 1
B02	Mm.79072	NM_177866	Catsper4	Cation channel, sperm associated 4
B03	Mm.260114	NM_172301	Ccnb1	Cyclin B1
B04	Mm.12884	NM_010778	Cd46	CD46 antigen, complement regulatory protein
B05	Mm.241056	NM_033037	Cdo1	Cysteine dioxygenase 1, cytosolic
B06	Mm.453295	NM_133828	Creb1	CAMP responsive element binding protein 1
B07	Mm.5244	NM_013498	Crem	CAMP responsive element modulator
B08	Mm.1296	NM_009420	Crisp2	Cysteine-rich secretory protein 2
B09	Mm.319913	NM_030033	Crisp4	Cysteine-rich secretory protein 4
B10	Mm.12665	NM_016716	Cul3	Cullin 3
B11	Mm.5199	NM_007810	Cyp19a1	Cytochrome P450, family 19, subfamily a, polypeptide 1
B12	Mm.280641	NM_010021	Dazl	Deleted in azoospermia-like
C01	Mm.291723	NM_013932	Ddx25	DEAD (Asp-Glu-Ala-Asp) box polypeptide 25
C02	Mm.12818	NM_010029	Ddx4	DEAD (Asp-Glu-Ala-Asp) box polypeptide 4
C03	Mm.391208	NM_015826	Dmrt1	Doublesex and mab-3 related transcription factor 1
C04	Mm.272871	NM_019964	Dnajb8	DnaJ (Hsp40) homolog, subfamily B, member 8
C05	Mm.101927	NM_138664	Dnajc28	DnaJ (Hsp40) homolog, subfamily C, member 28
C06	Mm.29394	NM_010122	Eif2b4	Eukaryotic translation initiation factor 2B, subunit 4 delta
C07	Mm.268903	NM_172703	Eif4g3	Eukaryotic translation initiation factor 4 gamma, 3
C08	Mm.1626	NM_007987	Fas	Fas (TNF receptor superfamily member 6)
C09	Mm.197520	NM_025995	Fbxo5	F-box protein 5
C10	Mm.246513	NM_010234	Fos	FBJ osteosarcoma oncogene
C11	Mm.5098	NM_008130	Gli3	GLI-Kruppel family member GLI3
C12	Mm.213016	NM_178712	Gpr64	G protein-coupled receptor 64
D01	Mm.1090	NM_008160	Gpx1	Glutathione peroxidase 1
D02	Mm.202504	NM_008228	Hdac1	Histone deacetylase 1
D03	Mm.276389	NM_010442	Hmox1	Heme oxygenase (decycling) 1
D04	Mm.12882	NM_010476	Hsd17b7	Hydroxysteroid (17-beta) dehydrogenase 7
D05	Mm.261395	NM_008297	Hsf2	Heat shock factor 2
D06	Mm.39330	NM_011020	Hspa4l	Heat shock protein 4 like
D07	Mm.10137	NM_010551	Il16	Interleukin 16
D08	Mm.34168	NM_025727	Klhl10	Kelch-like 10 (Drosophila)
D09	Mm.4339	NM_001081171	Lama5	Laminin, alpha 5
D10	Mm.277072	NM_008493	Lep	Leptin
D11	Mm.1644	NM_013582	Lhcgr	Luteinizing hormone/choriogonadotropin receptor
D12	Mm.243014	NM_019390	Lmna	Lamin A
E01	Mm.157070	NM_025676	Mcm8	Minichromosome maintenance deficient 8 (S. cerevisiae)
E02	Mm.288898	NM_029931	Mllt3	Myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosophila); translocated to, 3
E03	Mm.28712	NM_029272	Ndufs7	NADH dehydrogenase (ubiquinone) Fe-S protein 7
E04	Mm.170515	NM_010907	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha
E05	Mm.282556	NM_023409	Npc2	Niemann Pick type C2
E06	Mm.252830	NM_008757	Odf1	Outer dense fiber of sperm tails 1
E07	Mm.277349	NM_020569	Park7	Parkinson disease (autosomal recessive, early onset) 7

Position	UniGene	GenBank	Symbol	Description
E08	Mm.299916	NM_008793	Pcsk4	Proprotein convertase subtilisin/kexin type 4
E09	Mm.361919	NM_001033222	Pdzd8	PDZ domain containing 8
E10	Mm.717	NM_031190	Pgk2	Phosphoglycerate kinase 2
E11	Mm.272720	NM_021311	Piwil1	Piwi-like homolog 1 (Drosophila)
E12	Mm.50808	NM_054066	Plcz1	Phospholipase C, zeta 1
F01	Mm.29821	NM_007452	Prdx3	Peroxiredoxin 3
F02	Mm.325769	NM_008933	Prm2	Protamine 2
F03	Mm.73172	NM_172953	Serpina5	Serine (or cysteine) peptidase inhibitor, clade A, member 5
F04	Mm.371544	NM_007451	Slc25a5	Solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 5
F05	Mm.219530	XM_003085148	Slc26a8	Solute carrier family 26, member 8
F06	Mm.313303	NM_011416	Smarca2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2
F07	Mm.276325	NM_011434	Sod1	Superoxide dismutase 1, soluble
F08	Mm.290876	NM_013671	Sod2	Superoxide dismutase 2, mitochondrial
F09	Mm.23495	NM_012046	Spo11	Sporulation protein, meiosis-specific, SPO11 homolog (S. cerevisiae)
F10	Mm.23520	NM_030237	Spz1	Spermatogenic leucine zipper 1
F11	Mm.15252	NM_016795	Srpk1	Serine/arginine-rich protein specific kinase 1
F12	Mm.285609	NM_016964	Stag3	Stromal antigen 3
G01	Mm.297977	NM_011517	Sycp3	Synaptonemal complex protein 3
G02	Mm.244820	NM_013684	Tbp	TATA box binding protein
G03	Mm.29758	NM_013687	Tcp11	T-complex protein 11
G04	Mm.134024	NM_031384	Tex11	Testis expressed gene 11
G05	Mm.425024	NM_009407	Tnp1	Transition protein 1
G06	Mm.277382	NM_178872	Trim36	Tripartite motif-containing 36
G07	Mm.158128	NM_025741	Trpd52l3	Tumor protein D52-like 3
G08	Mm.332756	NM_207228	Tsga10	Testis specific 10
G09	Mm.41864	NM_026872	Ubap2	Ubiquitin-associated protein 2
G10	Mm.29807	NM_011670	Uchl1	Ubiquitin carboxy-terminal hydrolase L1
G11	Mm.27957	NM_001004436	Wapal	Wings apart-like homolog (Drosophila)
G12	Mm.1381	NM_011776	Zp3	Zona pellucida glycoprotein 3
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.

www.qiagen.com

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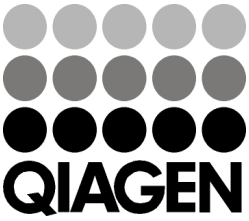

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