

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

Mouse Glycosylation

Cat. no. 330231 PAMM-046ZR

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 Glycosylation RT² Profiler PCR Array profiles the expression of 84 key genes encoding enzymes that post-translationally add and remove sugar residues to and from proteoglycans and glycoproteins. The process of generating and altering mature N-linked and O-linked glycans essential for proteoglycan and glycoprotein function requires not only glycosyltransferase activity for de novo oligosaccharide synthesis, but also both glycosidase and glycosyltransferase activity for remodeling. Increased expression of cell surface and secreted proteins, whether by stimulation of cells to differentiate or proliferate or by exogenous over-expression, requires more glycosyltransferase and glycosidase activity, contributed at least in part by their own increased gene expression. This array includes glycosyltransferase and glycosidase genes for several important sugars: galactose, glucose, mannose, N-acetylgalactosamine, N-acetylglucosamine, fucose, and sialic acid. Some of the represented enzymes also act on glycosphingolipids. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in protein glycosylation with this array.

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

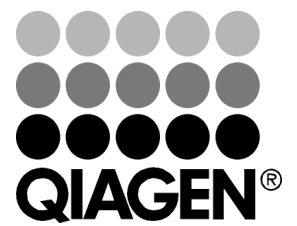
Shipping and storage

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.297753	NM_001077424	A4gnt	Alpha-1,4-N-acetylglucosaminyltransferase
A02	Mm.334535	NM_001005847	Aga	Aspartylglucosaminidase
A03	Mm.45060	NM_001081204	B3galtl	Beta 1,3-galactosyltransferase-like
A04	Mm.460502	NM_016888	B3gnt2	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 2
A05	Mm.290837	NM_028189	B3gnt3	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 3
A06	Mm.484068	NM_198611	B3gnt4	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 4
A07	Mm.192369	NM_146184	B3gnt8	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 8
A08	Mm.15622	NM_022305	B4galt1	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 1
A09	Mm.123843	NM_017377	B4galt2	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 2
A10	Mm.274011	NM_020579	B4galt3	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 3
A11	Mm.200886	NM_019835	B4galt5	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 5
A12	Mm.102752	NM_052993	C1galt1	Core 1 synthase, glycoprotein-N-acetylgalactosamine 3-beta-galactosyltransferase, 1
B01	Mm.441410	NM_021550	C1galt1c1	C1GALT1-specific chaperone 1
B02	Mm.21596	NM_138677	Edem1	ER degradation enhancer, mannosidase alpha-like 1
B03	Mm.273706	NM_145537	Edem2	ER degradation enhancer, mannosidase alpha-like 2
B04	Mm.337691	NM_001039644	Edem3	ER degradation enhancer, mannosidase alpha-like 3
B05	Mm.439940	NM_024243	Fuca1	Fucosidase, alpha-L-1, tissue
B06	Mm.26625	NM_025799	Fuca2	Fucosidase, alpha-L-2, plasma
B07	Mm.277552	NM_028428	Fut11	Fucosyltransferase 11
B08	Mm.35628	NM_016893	Fut8	Fucosyltransferase 8
B09	Mm.30249	NM_013814	Galnt1	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 1
B10	Mm.271670	NM_134189	Galnt10	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 10
B11	Mm.246718	NM_144908	Galnt11	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 11
B12	Mm.132246	NM_172693	Galnt12	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 12
C01	Mm.330227	NM_173030	Galnt13	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 13
C02	Mm.271953	NM_027864	Galnt14	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 14
C03	Mm.33808	NM_139272	Galnt2	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 2
C04	Mm.439760	NM_015736	Galnt3	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 3
C05	Mm.314	NM_015737	Galnt4	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 4
C06	Mm.484118	NM_172855	Galnt5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 5
C07	Mm.22969	NM_172451	Galnt6	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 6
C08	Mm.62886	NM_144731	Galnt7	UDP-N-acetyl-alpha-D-galactosamine: polypeptide N-acetylglucosaminyltransferase 7
C09	Mm.275748	NM_198306	Galnt9	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 9
C10	Mm.308296	NM_001081421	Galnt11	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase-like 1
C11	Mm.141471	NM_026449	Galnt15	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase-like 5
C12	Mm.376234	NM_175032	Galnt16	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase-like 6
D01	Mm.3196	NM_008060	Ganab	Alpha glucosidase 2 alpha neutral subunit
D02	Mm.244825	NM_173442	Gcnt1	Glucosaminyl (N-acetyl) transferase 1, core 2
D03	Mm.195555	NM_028087	Gcnt3	Glucosaminyl (N-acetyl) transferase 3, mucin type
D04	Mm.290516	NM_009752	Glb1	Galactosidase, beta 1

Position	UniGene	GenBank	Symbol	Description
D05	Mm.335190	NM_001004164	Gnptab	N-acetylglucosamine-1-phosphate transferase, alpha and beta subunits
D06	Mm.38607	NM_172529	Gnptg	N-acetylglucosamine-1-phosphotransferase, gamma subunit
D07	Mm.2284	NM_010421	Hexa	Hexosaminidase A
D08	Mm.27816	NM_010422	Hexb	Hexosaminidase B
D09	Mm.117294	NM_008548	Man1a	Mannosidase 1, alpha
D10	Mm.271617	NM_010763	Man1a2	Mannosidase, alpha, class 1A, member 2
D11	Mm.270798	NM_001029983	Man1b1	Mannosidase, alpha, class 1B, member 1
D12	Mm.18905	NM_207237	Man1c1	Mannosidase, alpha, class 1C, member 1
E01	Mm.2433	NM_008549	Man2a1	Mannosidase 2, alpha 1
E02	Mm.269245	NM_172903	Man2a2	Mannosidase 2, alpha 2
E03	Mm.4219	NM_010764	Man2b1	Mannosidase 2, alpha B1
E04	Mm.280536	NM_027288	Manba	Mannosidase, beta A, lysosomal
E05	Mm.196933	NM_010794	Mgat1	Mannoside acetylglucosaminyltransferase 1
E06	Mm.206642	NM_146035	Mgat2	Mannoside acetylglucosaminyltransferase 2
E07	Mm.299693	NM_010795	Mgat3	Mannoside acetylglucosaminyltransferase 3
E08	Mm.25861	NM_173870	Mgat4a	Mannoside acetylglucosaminyltransferase 4, isoenzyme A
E09	Mm.86759	NM_145926	Mgat4b	Mannoside acetylglucosaminyltransferase 4, isoenzyme B
E10	Mm.25252	NM_026243	Mgat4c	Mannosyl (alpha-1,3-)-glycoprotein beta-1,4-N-acetylglucosaminyltransferase, isozyme C (putative)
E11	Mm.214682	NM_145128	Mgat5	Mannoside acetylglucosaminyltransferase 5
E12	Mm.35141	NM_172948	Mgat5b	Mannoside acetylglucosaminyltransferase 5, isoenzyme B
F01	Mm.28188	NM_020619	Mogs	Mannosyl-oligosaccharide glucosidase
F02	Mm.215641	NM_013796	Nagpa	N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase
F03	Mm.8856	NM_010893	Neu1	Neuraminidase 1
F04	Mm.143717	NM_015750	Neu2	Neuraminidase 2
F05	Mm.103703	NM_016720	Neu3	Neuraminidase 3
F06	Mm.214565	NM_173772	Neu4	Sialidase 4
F07	Mm.485463	NM_139144	Ogt	O-linked N-acetylglucosamine (GlcNAc) transferase (UDP-N-acetylglucosamine: polypeptide-N-acetylglucosaminyl transferase)
F08	Mm.293761	NM_080463	Pofut1	Protein O-fucosyltransferase 1
F09	Mm.203556	NM_030262	Pofut2	Protein O-fucosyltransferase 2
F10	Mm.196045	NM_029786	Pomgnt1	Protein O-linked mannose beta1,2-N-acetylglucosaminyltransferase
F11	Mm.31192	NM_145145	Pomt1	Protein-O-mannosyltransferase 1
F12	Mm.388249	NM_153415	Pomt2	Protein-O-mannosyltransferase 2
G01	Mm.214593	NM_008925	PrkcsH	Protein kinase C substrate 80K-H
G02	Mm.248334	NM_009177	St3gal1	ST3 beta-galactoside alpha-2,3-sialyltransferase 1
G03	Mm.200388	NM_009179	St3gal2	ST3 beta-galactoside alpha-2,3-sialyltransferase 2
G04	Mm.149029	NM_145933	St6gal1	Beta galactoside alpha 2,6 sialyltransferase 1
G05	Mm.436887	NM_011371	St6galnac1	ST6 (alpha-N-acetyl-neuraminyl-2,3-beta-galactosyl-1,3)-N-acetylgalactosaminide alpha-2,6-sialyltransferase 1
G06	Mm.4954	NM_009181	St8sia2	ST8 alpha-N-acetyl-neuraminide alpha-2,8-sialyltransferase 2
G07	Mm.252110	NM_009182	St8sia3	ST8 alpha-N-acetyl-neuraminide alpha-2,8-sialyltransferase 3
G08	Mm.306228	NM_009183	St8sia4	ST8 alpha-N-acetyl-neuraminide alpha-2,8-sialyltransferase 4
G09	Mm.330004	NM_145838	St8sia6	ST8 alpha-N-acetyl-neuraminide alpha-2,8-sialyltransferase 6
G10	Mm.261022	NM_198899	Uggf1	UDP-glucose glycoprotein glucosyltransferase 1
G11	Mm.213406	NM_001081252	Uggf2	UDP-glucose glycoprotein glucosyltransferase 2
G12	Mm.299204	NM_145218	Wbscr17	Williams-Beuren syndrome chromosome region 17 homolog (human)
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.

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