RT² Profiler PCR Array (Rotor-Gene® Format)

Chinese hamster ovary (CHO) cell Glycosylation

Cat. no. 330231 PAJJ-046ZR

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 Chinese Hamster Ovary (CHO) Cell 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 overexpression, 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, research studies 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*.

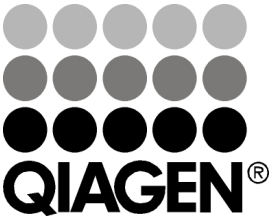
Shipping and storage

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	N/A	XM_003509884	B3galnt2	UDP-GalNAc:betaGlcNAc beta 1,3-galactosaminyltransferase, polypeptide 2
A02	N/A	XM_003496666	B3galtl	Beta 1,3-galactosyltransferase-like
A03	N/A	XM_003509428	B3gnt1	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 1
A04	N/A	XM_003500333	B4galnt3	Beta-1,4-N-acetyl-galactosaminyl transferase 3
A05	N/A	NM_001246694	B4galt2	UDP-Gal:betaGlcNAc beta 1,4- galactosyltransferase, polypeptide 2
A06	N/A	NM_001246777	B4galt3	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 3
A07	N/A	NM_001246778	B4galt5	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 5
A08	N/A	NM_001246715	Edem	ER degradation enhancer, mannosidase alpha-like 1
A09	N/A	XM_003500854	Edem3	ER degradation enhancer, mannosidase alpha-like 3
A10	N/A	XM_003506692	Engase	Endo-beta-N-acetylglucosaminidase
A11	N/A	XM_003504923	Fuca1	Fucosidase, alpha-L- 1, tissue
A12	N/A	NM_001244087	Fut6b	Alpha (1,3) fucosyltransferase 6B
B01	N/A	XM_003514669	Fut7	Fucosyltransferase 7
B02	N/A	XM_003501735	Fut8	Fucosyltransferase 8
B03	N/A	NM_001244024	Fut9	Fucosyltransferase 9
B04	N/A	XM_003501283	Galnt11	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 11
B05	N/A	XM_003496585	Galnt14	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 14
B06	N/A	XM_003496818	Galnt2	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 2
B07	N/A	XM_003505793	Galnt3	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 3
B08	N/A	XM_003504322	Galnt4	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 4
B09	N/A	XM_003503403	Galnt5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 5
B10	N/A	XM_003515281	Galnt6	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 6
B11	N/A	XM_003498278	Galntl1	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase-like 1
B12	N/A	XM_003495298	Galntl2	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase-like 2
C01	N/A	XM_003501315	Galntl5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase-like 5
C02	N/A	XM_003508735	Ganab	Alpha glucosidase 2 alpha neutral subunit
C03	N/A	XM_003501439	Gcnt7	Glucosaminyl (N-acetyl) transferase family member 7
C04	N/A	XM_003498582	Glb1	Galactosidase, beta 1
C05	N/A	XM_003507594	Glb1l	Galactosidase, beta 1-like
C06	N/A	XM_003499705	Gnptab	N-acetylglucosamine-1-phosphate transferase, alpha and beta subunits
C07	N/A	XM_003498915	Hexa	Hexosaminidase A
C08	N/A	XM_003496914	Hexdc	Hexosaminidase (glycosyl hydrolase family 20, catalytic domain) containing
C09	N/A	XM_003505031	Large	Like-glycosyltransferase
C10	N/A	XM_003511143	LOC100689098	Alpha-glucosidase I
C11	N/A	XM_003509985	LOC100751193	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase-like protein 1-like
C12	N/A	XM_003507481	LOC100751583	Beta-galactosidase-1-like protein 2-like
D01	N/A	XM_003499637	LOC100752709	Alpha-galactosidase A-like
D02	N/A	XM_003501134	LOC100753801	ER degradation-enhancing alpha-mannosidase-like 2-like
D03	N/A	XM_003506494	LOC100754814	Alpha-(1,3)-fucosyltransferase-like
D04	N/A	XM_003512267	LOC100755033	Protein O-mannosyl-transferase 1-like

Position	UniGene	GenBank	Symbol	Description
D05	N/A	XM_003503262	LOC100756438	UDP-GalNAc:beta-1,3-N-acetylgalactosaminyltransferase 1-like
D06	N/A	XM_003495847	LOC100757469	Beta-galactosidase-1-like protein 3-like
D07	N/A	XM_003509780	LOC100757919	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 5-like
D08	N/A	XM_003496723	LOC100758336	Alpha-(1,3)-fucosyltransferase 11-like
D09	N/A	XM_003512916	LOC100758404	N-acetyl-beta-glucosaminyl-glycoprotein 4-beta-N-acetylgalactosaminyltransferase 1-like
D10	N/A	XM_003497838	LOC100760260	Alpha-(1,3)-fucosyltransferase 10-like
D11	N/A	XM_003515109	LOC100760456	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 7-like
D12	N/A	XM_003503961	LOC100760696	Beta-1,4 N-acetylgalactosaminyltransferase 2-like
E01	N/A	XM_003504316	LOC100762043	N-acetylgalactosaminyltransferase 7-like
E02	N/A	XM_003495228	LOC100762273	UDP-glucose:glycoprotein glucosyltransferase 2-like
E03	N/A	XM_003499522	LOC100763756	Beta-galactoside alpha-2,6-sialyltransferase 2-like
E04	N/A	XM_003496085	LOC100764127	Probable polypeptide N-acetylgalactosaminyltransferase 8-like
E05	N/A	XM_003507527	LOC100764682	Beta-1,4 N-acetylgalactosaminyltransferase 1-like
E06	N/A	XM_003502146	LOC100766691	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 2-like
E07	N/A	XM_003507591	LOC100767393	Putative polypeptide N-acetylgalactosaminyltransferase-like protein 4-like
E08	N/A	XM_003511017	LOC100768656	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 6-like
E09	N/A	XM_003498445	LOC100769077	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 4-like
E10	N/A	XM_003502516	LOC100771969	Alpha-1,4-N-acetylglucosaminyltransferase-like
E11	N/A	XM_003497361	LOC100772511	Protein O-linked-mannose beta-1,2-N-acetylglucosaminyltransferase 1-like
E12	N/A	XM_003499127	LOC100773213	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 3-like
F01	N/A	XM_003498309	LOC100773968	UDP-glucose:glycoprotein glucosyltransferase 1-like
F02	N/A	XM_003500612	Man1a2	Mannosidase, alpha, class 1A, member 2
F03	N/A	XM_003499367	Man2a1	Mannosidase 2, alpha 1
F04	N/A	XM_003513673	Man2a2	Mannosidase 2, alpha 2
F05	N/A	XM_003501930	Man2b1	Mannosidase 2, alpha B1
F06	N/A	XM_003496617	Man2b2	Mannosidase 2, alpha B2
F07	N/A	XM_003497922	Man2c1	Mannosidase, alpha, class 2C, member 1
F08	N/A	NM_001243982	Manea	Mannosidase, endo-alpha
F09	N/A	NM_001243980	Mgat1	Mannoside acetylglucosaminyltransferase 1
F10	N/A	NM_001244074	Mgat3	Mannoside acetylglucosaminyltransferase 3
F11	N/A	XM_003498283	Mgat4a	Mannoside acetylglucosaminyltransferase 4, isoenzyme A
F12	N/A	XM_003505377	Mgat4b	Mannoside acetylglucosaminyltransferase 4, isoenzyme B
G01	N/A	XM_003503413	Mgat4c	Mannosyl (alpha-1,3-)-glycoprotein beta-1,4-N-acetylglucosaminyltransferase, isozyme C (putative)
G02	N/A	XM_003498828	Mgat5b	Mannoside acetylglucosaminyltransferase 5, isoenzyme B
G03	N/A	XM_003508122	Nagpa	N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase
G04	N/A	NM_001246800	Neu1	Neuraminidase 1
G05	N/A	NM_001246735	Neu2	Neuraminidase 2
G06	N/A	NM_001244100	Neu3	Neuraminidase 3
G07	N/A	XM_003499265	Neu4	Sialidase 4
G08	N/A	XM_003513385	Ogt	O-linked N-acetylglucosamine (GlcNAc) transferase (UDP-N-acetylglucosamine: polypeptide-N-acetylglucosaminyl transferase)
G09	N/A	XM_003500593	Pofut2	Protein O-fucosyltransferase 2
G10	N/A	XM_003499674	Pomt2	Protein-O-mannosyltransferase 2
G11	N/A	XM_003506849	St6galnac1	ST6 (alpha-N-acetyl-neuraminyl-2,3-beta-galactosyl-1, 3)-N-acetylgalactosaminide alpha-2,6-sialyltransferase 1
G12	N/A	NM_001244250	St8sia4	ST8 alpha-N-acetyl-neuraminide alpha-2,8-sialyltransferase 4
H01	N/A	NM_001244575	Actb	Actin, beta
H02	N/A	XM_003497123	Actr5	ARP5 actin-related protein 5 homolog (yeast)
H03	N/A	NM_001246674	B2m	Beta-2 microglobulin

Position	UniGene	GenBank	Symbol	Description
H04	N/A	NM_001244854	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H05	N/A	XM_003503017	LOC100769768	Hypoxanthine-guanine phosphoribosyltransferase-like
H06	N/A	SA_00519	JGDC	Hamster 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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