RT² Profiler PCR Array (Rotor-Gene® Format)

Rat Macular Degeneration

Cat. no. 330231 PARN-171ZR

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 Rat Macular Degeneration RT² Profiler PCR Array profiles the expression of 84 genes involved in the pathogenesis of age-related macular degeneration (AMD). AMD usually affects older adults and can make it difficult or impossible to read or recognize faces, although enough peripheral vision remains to allow other daily life activities. AMD is an ocular disease that involves an aspect-specific region of the retina called the macula. The macula facilitates central vision and permits high-resolution visual acuity due to its dense concentration of cone photoreceptors. AMD starts with characteristic yellow deposits (drusen) in the macula between the retinal pigment epithelium and the underlying choroid, with pigmentary abnormalities. The late stage is divided into two groups: dry (non-exudative) and wet (exudative/neovascular) forms. The dry form is characterized by atrophic changes in the macula and clinically has a slower deterioration and better preservation of visual acuity. Wet AMD involves choroidal neovascularization, which is the formation of new abnormal blood vessels in the choriocapillaries through Brusch's membrane. These vessels have a greater tendency of leakage and bleeding into the macula, ultimately leading to irreversible damage to the photoreceptors if left untreated. The molecular pathways underlying AMD's onset and progression remain poorly delineated. The genes profiled with this array include inflammatory and endothelial cell markers for vascularization as well as AMD-associated markers for drusen, Brusch's membrane, and retinal abnormalities. A set of controls present on each array enables data analysis using the ΔΔCT method of relative quantification and 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 age-related macular degeneration 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	Rn.148916	NM_178095	Abca1	ATP-binding cassette, subfamily A (ABC1), member 1
A02	Rn.40415	NM_001107721	Abca4	ATP-binding cassette, subfamily A (ABC1), member 4
A03	Rn.10149	NM_012544	Ace	Angiotensin I converting enzyme (peptidyl-dipeptidase A) 1
A04	Rn.202968	NM_134326	Alb	Albumin
A05	Rn.90546	NM_019905	Anxa2	Annexin A2
A06	Rn.3318	NM_013132	Anxa5	Annexin A5
A07	Rn.32351	NM_138828	Apoe	Apolipoprotein E
A08	Rn.98333	NM_172222	C2	Complement component 2
A09	Rn.11378	NM_016994	C3	Complement component 3
A10	Rn.81052	NM_031504	C4b	Complement component 4B (Chido blood group)
A11	Rn.21259	XM_342421	C5	Complement component 5
A12	Rn.10252	NM_057146	C9	Complement component 9
B01	Rn.10632	NM_019205	Ccl11	Chemokine (C-C motif) ligand 11
B02	Rn.4772	NM_031530	Ccl2	Chemokine (C-C motif) ligand 2
B03	Rn.109148	NM_212466	Cfb	Complement factor B
B04	Rn.101777	NM_130409	Cfh	Complement factor H
B05	Rn.203038	NM_001044227	Cfhl1	Complement component factor h-like 1
B06	Rn.7424	NM_024157	Cfi	Complement factor I
B07	Rn.1780	NM_053021	Clu	Clusterin
B08	Rn.99441	NM_001130548	Col14a1	Collagen, type XIV, alpha 1
B09	Rn.32777	NM_012532	Cp	Ceruloplasmin
B10	Rn.16463	NM_017096	Crp	C-reactive protein, pentraxin-related
B11	Rn.127769	NM_012534	Cryaa	Crystallin, alpha A
B12	Rn.98208	NM_012935	Cryab	Crystallin, alpha B
C01	Rn.64655	NM_033095	Crygd	Crystallin, gamma D
C02	Rn.106351	NM_012837	Cst3	Cystatin C
C03	Rn.17145	NM_022266	Ctgf	Connective tissue growth factor
C04	Rn.11085	NM_134334	Ctsd	Cathepsin D
C05	Rn.10482	NM_133534	Cx3cr1	Chemokine (C-X3-C motif) receptor 1
C06	Rn.54439	NM_022177	Cxcl12	Chemokine (C-X-C motif) ligand 12 (stromal cell-derived factor 1)
C07	Rn.205881	XM_001068155	Dicer1	Dicer 1, ribonuclease type III
C08	Rn.163265	NM_001012039	Efemp1	EGF-containing fibulin-like extracellular matrix protein 1
C09	Rn.54384	NM_012722	Eln	Elastin
C10	Rn.19370	NM_001107296	Ercc6	Excision repair cross-complementing rodent repair deficiency, complementation group 6
C11	Rn.198713	XM_001076851	Fancg	Fanconi anemia, complementation group G
C12	Rn.9725	NM_012908	Faslg	Fas ligand (TNF superfamily, member 6)
D01	Rn.1699	NM_019153	Fbln5	Fibulin 5
D02	Rn.1604	NM_019143	Fn1	Fibronectin 1
D03	Rn.91512	NM_017009	Gfap	Glial fibrillary acidic protein
D04	Rn.202944	NM_017014	Gstm1	Glutathione S-transferase mu 1
D05	Rn.87063	NM_012577	Gstp1	Glutathione S-transferase pi 1
D06	Rn.11122	NM_053293	Gstt1	Glutathione S-transferase theta 1
D07	Rn.10852	NM_024359	Hif1a	Hypoxia-inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)
D08	Rn.52931	XM_222716	Hmcn1	Hemicentin 1
D09	Rn.3160	NM_012580	Hmox1	Heme oxygenase (decycling) 1
D10	Rn.10241	NM_024387	Hmox2	Heme oxygenase (decycling) 2
D11	Rn.2782	NM_031721	Htra1	HtrA serine peptidase 1
D12	Rn.12	NM_012967	Icam1	Intercellular adhesion molecule 1
E01	Rn.6282	NM_178866	Igf1	Insulin-like growth factor 1
E02	Rn.9873	NM_012589	Il6	Interleukin 6
E03	Rn.44444	NM_013076	Lep	Leptin
E04	Rn.1195	NM_012597	Lipc	Lipase, hepatic
E05	Rn.3834	NM_012598	Lpl	Lipoprotein lipase
E06	Rn.6422	NM_031054	Mmp2	Matrix metallopeptidase 2
E07	Rn.10209	NM_031055	Mmp9	Matrix metallopeptidase 9

Position	UniGene	GenBank	Symbol	Description
E08	Rn.10573	NM_052799	Nos1	Nitric oxide synthase 1, neuronal
E09	Rn.44265	NM_021838	Nos3	Nitric oxide synthase 3, endothelial cell
E10	Rn.20178	NM_053491	Plg	Plasminogen
E11	Rn.20732	NM_032077	Pon1	Paraoxonase 1
E12	Rn.92530	NM_033441	Rho	Rhodopsin
F01	Rn.41007	NM_001106274	Rlbp1	Retinaldehyde binding protein 1
F02	Rn.76724	NM_053562	Rpe65	Retinal pigment epithelium 65
F03	Rn.9856	NM_013023	Sag	S-antigen; retina and pineal gland (arrestin)
F04	Rn.88169	NM_031541	Scarb1	Scavenger receptor class B, member 1
F05	Rn.29367	NM_012620	Serpine1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F06	Rn.16993	NM_177927	Serpinf1	Serpin peptidase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), member 1
F07	Rn.100285	NM_199093	Serping1	Serine (or cysteine) peptidase inhibitor, clade G, member 1
F08	Rn.32202	NM_012651	Slc4a1	Solute carrier family 4 (anion exchanger), member 1
F09	Rn.10488	NM_017051	Sod2	Superoxide dismutase 2, mitochondrial
F10	Rn.98989	NM_012656	Sparc	Secreted protein, acidic, cysteine-rich (osteonectin)
F11	Rn.555	NM_017166	Stmn1	Stathmin 1
F12	Rn.91296	NM_001013110	Tf	Transferrin
G01	Rn.40136	NM_021578	Tgfb1	Transforming growth factor, beta 1
G02	Rn.108198	NM_012673	Thy1	Thy-1 cell surface antigen
G03	Rn.25754	NM_053819	Timp1	TIMP metallopeptidase inhibitor 1
G04	Rn.119634	NM_012886	Timp3	TIMP metallopeptidase inhibitor 3
G05	Rn.15273	NM_198791	Tlr3	Toll-like receptor 3
G06	Rn.14534	NM_019178	Tlr4	Toll-like receptor 4
G07	Rn.26691	NM_022290	Tnmd	Tenomodulin
G08	Rn.1923	NM_031836	Vegfa	Vascular endothelial growth factor A
G09	Rn.2710	NM_031140	Vim	Vimentin
G10	Rn.9975	NM_013155	Vldlr	Very low density lipoprotein receptor
G11	Rn.87493	NM_019156	Vtn	Vitronectin
G12	Rn.35561	XM_342759	Vwf	Von Willebrand factor
H01	Rn.94978	NM_031144	Actb	Actin, beta
H02	Rn.1868	NM_012512	B2m	Beta-2 microglobulin
H03	Rn.47	NM_012583	Hprt1	Hypoxanthine phosphoribosyltransferase 1
H04	Rn.107896	NM_017025	Ldha	Lactate dehydrogenase A
H05	Rn.973	NM_001007604	Rplp1	Ribosomal protein, large, P1
H06	N/A	U26919	RGDC	Rat 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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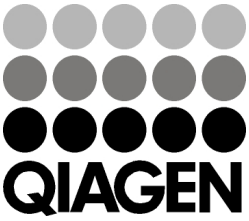

Sample & Assay Technologies