RT² Profiler PCR Array (Rotor-Gene® Format)

Human Macular Degeneration

Cat. no. 330231 PAHS-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 Human 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	Hs.429294	NM_005502	ABCA1	ATP-binding cassette, sub-family A (ABC1), member 1
A02	Hs.416707	NM_000350	ABCA4	ATP-binding cassette, sub-family A (ABC1), member 4
A03	Hs.654434	NM_000789	ACE	Angiotensin I converting enzyme (peptidyl-dipeptidase A) 1
A04	Hs.418167	NM_000477	ALB	Albumin
A05	Hs.480653	NM_001154	ANXA5	Annexin A5
A06	Hs.654439	NM_000041	APOE	Apolipoprotein E
A07	Hs.120359	NM_001099667	ARMS2	Age-related maculopathy susceptibility 2
A08	Hs.408903	NM_000063	C2	Complement component 2
A09	Hs.529053	NM_000064	C3	Complement component 3
A10	Hs.494997	NM_001735	C5	Complement component 5
A11	Hs.654443	NM_001737	C9	Complement component 9
A12	Hs.54460	NM_002986	CCL11	Chemokine (C-C motif) ligand 11
B01	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2
B02	Hs.89538	NM_000078	CETP	Cholesteryl ester transfer protein, plasma
B03	Hs.69771	NM_001710	CFB	Complement factor B
B04	Hs.363396	NM_000186	CFH	Complement factor H
B05	Hs.575869	NM_021023	CFHR3	Complement factor H-related 3
B06	Hs.312485	NM_000204	CFI	Complement factor I
B07	Hs.436657	NM_001831	CLU	Clusterin
B08	Hs.409662	NM_021110	COL14A1	Collagen, type XIV, alpha 1
B09	Hs.558314	NM_000096	CP	Ceruloplasmin (ferroxidase)
B10	Hs.709456	NM_000567	CRP	C-reactive protein, pentraxin-related
B11	Hs.184085	NM_000394	CRYAA	Crystallin, alpha A
B12	Hs.408767	NM_001885	CRYAB	Crystallin, alpha B
C01	Hs.546247	NM_006891	CRYGD	Crystallin, gamma D
C02	Hs.304682	NM_000099	CST3	Cystatin C
C03	Hs.591346	NM_001901	CTGF	Connective tissue growth factor
C04	Hs.121575	NM_001909	CTSD	Cathepsin D
C05	Hs.78913	NM_001337	CX3CR1	Chemokine (C-X3-C motif) receptor 1
C06	Hs.522891	NM_000609	CXCL12	Chemokine (C-X-C motif) ligand 12
C07	Hs.87889	NM_177438	DICER1	Dicer 1, ribonuclease type III
C08	Hs.76224	NM_004105	EFEMP1	EGF containing fibulin-like extracellular matrix protein 1
C09	Hs.647061	NM_000501	ELN	Elastin
C10	Hs.654449	NM_000124	ERCC6	Excision repair cross-complementing rodent repair deficiency, complementation group 6
C11	Hs.591084	NM_004629	FANCG	Fanconi anemia, complementation group G
C12	Hs.2007	NM_000639	FASLG	Fas ligand (TNF superfamily, member 6)
D01	Hs.332708	NM_006329	FBLN5	Fibulin 5
D02	Hs.203717	NM_002026	FN1	Fibronectin 1
D03	Hs.514227	NM_002055	GFAP	Glial fibrillary acidic protein
D04	Hs.301961	NM_000561	GSTM1	Glutathione S-transferase mu 1
D05	Hs.523836	NM_000852	GSTP1	Glutathione S-transferase pi 1
D06	Hs.597216	NM_001530	HIF1A	Hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)
D07	Hs.58877	NM_031935	HMCN1	Hemicentin 1
D08	Hs.517581	NM_002133	HMOX1	Heme oxygenase (decycling) 1
D09	Hs.284279	NM_002134	HMOX2	Heme oxygenase (decycling) 2
D10	Hs.501280	NM_002775	HTRA1	HtrA serine peptidase 1
D11	Hs.643447	NM_000201	ICAM1	Intercellular adhesion molecule 1
D12	Hs.160562	NM_000618	IGF1	Insulin-like growth factor 1 (somatomedin C)
E01	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)
E02	Hs.624	NM_000584	IL8	Interleukin 8
E03	Hs.194236	NM_000230	LEP	Leptin
E04	Hs.654472	NM_000236	LIPC	Lipase, hepatic
E05	Hs.180878	NM_000237	LPL	Lipoprotein lipase
E06	Hs.513617	NM_004530	MMP2	Matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)

Position	UniGene	GenBank	Symbol	Description
E07	Hs.297413	NM_004994	MMP9	Matrix metallopeptidase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)
E08	Hs.654410	NM_000620	NOS1	Nitric oxide synthase 1 (neuronal)
E09	Hs.707978	NM_000603	NOS3	Nitric oxide synthase 3 (endothelial cell)
E10	Hs.143436	NM_000301	PLG	Plasminogen
E11	Hs.370995	NM_000446	PON1	Paraoxonase 1
E12	Hs.247565	NM_000539	RHO	Rhodopsin
F01	Hs.1933	NM_000326	RLBP1	Retinaldehyde binding protein 1
F02	Hs.2133	NM_000329	RPE65	Retinal pigment epithelium-specific protein 65kDa
F03	Hs.32721	NM_000541	SAG	S-antigen; retina and pineal gland (arrestin)
F04	Hs.709216	NM_005505	SCARB1	Scavenger receptor class B, member 1
F05	Hs.414795	NM_000602	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
F06	Hs.532768	NM_002615	SERPINF1	Serpin peptidase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), member 1
F07	Hs.384598	NM_000062	SERPING1	Serpin peptidase inhibitor, clade G (C1 inhibitor), member 1
F08	Hs.443948	NM_000342	SLC4A1	Solute carrier family 4, anion exchanger, member 1 (erythrocyte membrane protein band 3, Diego blood group)
F09	Hs.487046	NM_000636	SOD2	Superoxide dismutase 2, mitochondrial
F10	Hs.111779	NM_003118	SPARC	Secreted protein, acidic, cysteine-rich (osteonectin)
F11	Hs.209983	NM_005563	STMN1	Stathmin 1
F12	Hs.729019	NM_001063	TF	Transferrin
G01	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
G02	Hs.644697	NM_006288	THY1	Thy-1 cell surface antigen
G03	Hs.522632	NM_003254	TIMP1	TIMP metallopeptidase inhibitor 1
G04	Hs.644633	NM_000362	TIMP3	TIMP metallopeptidase inhibitor 3
G05	Hs.657724	NM_003265	TLR3	Toll-like receptor 3
G06	Hs.174312	NM_138554	TLR4	Toll-like receptor 4
G07	Hs.109225	NM_001078	VCAM1	Vascular cell adhesion molecule 1
G08	Hs.73793	NM_003376	VEGFA	Vascular endothelial growth factor A
G09	Hs.642813	NM_003380	VIM	Vimentin
G10	Hs.370422	NM_003383	VLDLR	Very low density lipoprotein receptor
G11	Hs.2257	NM_000638	VTN	Vitronectin
G12	Hs.440848	NM_000552	VWF	Von Willebrand factor
H01	Hs.520640	NM_001101	ACTB	Actin, beta
H02	Hs.534255	NM_004048	B2M	Beta-2-microglobulin
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
H04	Hs.412707	NM_000194	HPRT1	Hypoxanthine phosphoribosyltransferase 1
H05	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0
H06	N/A	SA_00105	HGDC	Human 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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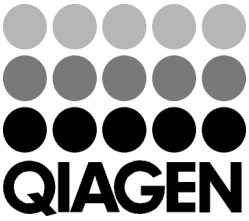

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