RT² Profiler PCR Array (Rotor-Gene® Format)

Human Autophagy

Cat. no. 330231 PAHS-084ZR

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 Autophagy RT² Profiler PCR Array profiles the expression of 84 key genes involved in autophagy, an intracellular catabolic process that destroys a cell's own damaged proteins and organelles via the lysosome. Autophagy has been shown to play roles in a wide variety of normal physiological processes including energy metabolism, organelle turnover, growth regulation, and aging. Impaired autophagy can lead to diseases such as cardiomyopathy and cancer. The array includes genes that encode components of the molecular machinery and key regulators modulating autophagy in response to both extracellular and intracellular signals. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in autophagy 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.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1
A02	Hs.654644	NM_017749	AMBRA1	Autophagy/beclin-1 regulator 1
A03	Hs.434980	NM_000484	APP	Amyloid beta (A4) precursor protein
A04	Hs.713698	NM_031482	ATG10	ATG10 autophagy related 10 homolog (S. cerevisiae)
A05	Hs.264482	NM_004707	ATG12	ATG12 autophagy related 12 homolog (S. cerevisiae)
A06	Hs.529322	NM_017974	ATG16L1	ATG16 autophagy related 16-like 1 (S. cerevisiae)
A07	Hs.653186	NM_033388	ATG16L2	ATG16 autophagy related 16-like 2 (S. cerevisiae)
A08	Hs.477126	NM_022488	ATG3	ATG3 autophagy related 3 homolog (S. cerevisiae)
A09	Hs.8763	NM_052936	ATG4A	ATG4 autophagy related 4 homolog A (S. cerevisiae)
A10	Hs.283610	NM_178326	ATG4B	ATG4 autophagy related 4 homolog B (S. cerevisiae)
A11	Hs.7353	NM_178221	ATG4C	ATG4 autophagy related 4 homolog C (S. cerevisiae)
A12	Hs.512799	NM_032885	ATG4D	ATG4 autophagy related 4 homolog D (S. cerevisiae)
B01	Hs.486063	NM_004849	ATG5	ATG5 autophagy related 5 homolog (S. cerevisiae)
B02	Hs.716466	NM_006395	ATG7	ATG7 autophagy related 7 homolog (S. cerevisiae)
B03	Hs.323363	NM_024085	ATG9A	ATG9 autophagy related 9 homolog A (S. cerevisiae)
B04	Hs.707300	NM_173681	ATG9B	ATG9 autophagy related 9 homolog B (S. cerevisiae)
B05	Hs.370254	NM_004322	BAD	BCL2-associated agonist of cell death
B06	Hs.485139	NM_001188	BAK1	BCL2-antagonist/killer 1
B07	Hs.624291	NM_004324	BAX	BCL2-associated X protein
B08	Hs.150749	NM_000633	BCL2	B-cell CLL/lymphoma 2
B09	Hs.516966	NM_138578	BCL2L1	BCL2-like 1
B10	Hs.12272	NM_003766	BECN1	Beclin 1, autophagy related
B11	Hs.591054	NM_001196	BID	BH3 interacting domain death agonist
B12	Hs.144873	NM_004052	BNIP3	BCL2/adenovirus E1B 19kDa interacting protein 3
C01	Hs.141125	NM_004346	CASP3	Caspase 3, apoptosis-related cysteine peptidase
C02	Hs.599762	NM_001228	CASP8	Caspase 8, apoptosis-related cysteine peptidase
C03	Hs.238990	NM_004064	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)
C04	Hs.512599	NM_000077	CDKN2A	Cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)
C05	Hs.628393	NM_000086	CLN3	Ceroid-lipofuscinosis, neuronal 3
C06	Hs.520898	NM_001908	CTSB	Cathepsin B
C07	Hs.121575	NM_001909	CTSD	Cathepsin D
C08	Hs.181301	NM_004079	CTSS	Cathepsin S
C09	Hs.593413	NM_003467	CXCR4	Chemokine (C-X-C motif) receptor 4
C10	Hs.380277	NM_004938	DAPK1	Death-associated protein kinase 1
C11	Hs.525634	NM_018370	DRAM1	DNA-damage regulated autophagy modulator 1
C12	Hs.485606	NM_178454	DRAM2	DNA-damage regulated autophagy modulator 2
D01	Hs.591589	NM_004836	EIF2AK3	Eukaryotic translation initiation factor 2-alpha kinase 3
D02	Hs.433750	NM_182917	EIF4G1	Eukaryotic translation initiation factor 4 gamma, 1
D03	Hs.208124	NM_000125	ESR1	Estrogen receptor 1
D04	Hs.86131	NM_003824	FADD	Fas (TNFRSF6)-associated via death domain
D05	Hs.244139	NM_000043	FAS	Fas (TNF receptor superfamily, member 6)
D06	Hs.1437	NM_000152	GAA	Glucosidase, alpha; acid
D07	Hs.647421	NM_007278	GABARAP	GABA(A) receptor-associated protein
D08	Hs.524250	NM_031412	GABARAPL1	GABA(A) receptor-associated protein like 1
D09	Hs.461379	NM_007285	GABARAPL2	GABA(A) receptor-associated protein-like 2
D10	Hs.88556	NM_004964	HDAC1	Histone deacetylase 1
D11	Hs.6764	NM_006044	HDAC6	Histone deacetylase 6
D12	Hs.514590	NM_004712	HGS	Hepatocyte growth factor-regulated tyrosine kinase substrate
E01	Hs.525600	NM_001017963	HSP90AA1	Heat shock protein 90kDa alpha (cytosolic), class A member 1
E02	Hs.702021	NM_006597	HSPA8	Heat shock 70kDa protein 8
E03	Hs.518450	NM_002111	HTT	Huntingtin
E04	Hs.856	NM_000619	IFNG	Interferon, gamma
E05	Hs.160562	NM_000618	IGF1	Insulin-like growth factor 1 (somatomedin C)
E06	Hs.654579	NM_000207	INS	Insulin
E07	Hs.519680	NM_001145805	IRGM	Immunity-related GTPase family, M
E08	Hs.494419	NM_005561	LAMP1	Lysosomal-associated membrane protein 1
E09	Hs.632273	NM_181509	MAP1LC3A	Microtubule-associated protein 1 light chain 3 alpha

Position	UniGene	GenBank	Symbol	Description
E10	Hs.356061	NM_022818	MAP1LC3B	Microtubule-associated protein 1 light chain 3 beta
E11	Hs.485233	NM_001315	MAPK14	Mitogen-activated protein kinase 14
E12	Hs.138211	NM_002750	MAPK8	Mitogen-activated protein kinase 8
F01	Hs.338207	NM_004958	MTOR	Mechanistic target of rapamycin (serine/threonine kinase)
F02	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
F03	Hs.464779	NM_000271	NPC1	Niemann-Pick disease, type C1
F04	Hs.464971	NM_002647	PIK3C3	Phosphoinositide-3-kinase, class 3
F05	Hs.32942	NM_002649	PIK3CG	Phosphoinositide-3-kinase, catalytic, gamma polypeptide
F06	Hs.149032	NM_014602	PIK3R4	Phosphoinositide-3-kinase, regulatory subunit 4
F07	Hs.43322	NM_006251	PRKAA1	Protein kinase, AMP-activated, alpha 1 catalytic subunit
F08	Hs.500466	NM_000314	PTEN	Phosphatase and tensin homolog
F09	Hs.16258	NM_130781	RAB24	RAB24, member RAS oncogene family
F10	Hs.408528	NM_000321	RB1	Retinoblastoma 1
F11	Hs.422336	NM_005873	RGS19	Regulator of G-protein signaling 19
F12	Hs.463642	NM_003161	RPS6KB1	Ribosomal protein S6 kinase, 70kDa, polypeptide 1
G01	Hs.271771	NM_000345	SNCA	Synuclein, alpha (non A4 component of amyloid precursor)
G02	Hs.437277	NM_003900	SQSTM1	Sequestosome 1
G03	Hs.645227	NM_000660	TGFB1	Transforming growth factor, beta 1
G04	Hs.517033	NM_004613	TGM2	Transglutaminase 2 (C polypeptide, protein-glutamine-gamma-glutamyltransferase)
G05	Hs.99439	NM_153015	TMEM74	Transmembrane protein 74
G06	Hs.241570	NM_000594	TNF	Tumor necrosis factor
G07	Hs.478275	NM_003810	TNFSF10	Tumor necrosis factor (ligand) superfamily, member 10
G08	Hs.654481	NM_000546	TP53	Tumor protein p53
G09	Hs.47061	NM_003565	ULK1	Unc-51-like kinase 1 (C. elegans)
G10	Hs.168762	NM_014683	ULK2	Unc-51-like kinase 2 (C. elegans)
G11	Hs.728868	NM_003369	UVRAG	UV radiation resistance associated gene
G12	Hs.463964	NM_017983	WIPI1	WD repeat domain, phosphoinositide interacting 1
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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