

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

Rat Autophagy

Cat. no. 330231 PARN-084ZR

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 Rat 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 | Rn.11422 | NM_033230 | Akt1 | V-akt murine thymoma viral oncogene homolog 1 |
| A02 | Rn.133954 | NM_001134341 | Ambra1 | Autophagy/beclin 1 regulator 1 |
| A03 | Rn.2104 | NM_019288 | App | Amyloid beta (A4) precursor protein |
| A04 | Rn.23323 | NM_001034933 | Arsa | Arylsulfatase A |
| A05 | Rn.6224 | NM_001038495 | Atg12 | ATG12 autophagy related 12 homolog (S. cerevisiae) |
| A06 | Rn.101734 | NM_001108809 | Atg16l1 | ATG16 autophagy related 16-like 1 (S. cerevisiae) |
| A07 | Rn.104199 | NM_001191560 | Atg16l2 | ATG16 autophagy related 16-like 2 (S. cerevisiae) |
| A08 | Rn.3084 | NM_134394 | Atg3 | ATG3 autophagy related 3 homolog (S. cerevisiae) |
| A09 | Rn.163086 | NM_001025711 | Atg4b | ATG4 autophagy related 4 homolog B (S. cerevisiae) |
| A10 | Rn.23378 | NM_001107948 | Atg4c | ATG4 autophagy related 4 homolog C (S. cerevisiae) |
| A11 | Rn.98385 | NM_001014250 | Atg5 | ATG5 autophagy related 5 homolog (S. cerevisiae) |
| A12 | Rn.162765 | NM_001012097 | Atg7 | ATG7 autophagy related 7 homolog (S. cerevisiae) |
| B01 | Rn.35248 | NM_001014218 | Atg9a | ATG9 autophagy related 9 homolog A (S. cerevisiae) |
| B02 | Rn.36696 | NM_022698 | Bad | BCL2-associated agonist of cell death |
| B03 | Rn.14598 | NM_053812 | Bak1 | BCL2-antagonist/killer 1 |
| B04 | Rn.10668 | NM_017059 | Bax | Bcl2-associated X protein |
| B05 | Rn.9996 | NM_016993 | Bcl2 | B-cell CLL/lymphoma 2 |
| B06 | Rn.10323 | NM_031535 | Bcl2l1 | Bcl2-like 1 |
| B07 | Rn.2776 | NM_053739 | Becn1 | Beclin 1, autophagy related |
| B08 | Rn.31142 | NM_022684 | Bid | BH3 interacting domain death agonist |
| B09 | Rn.2060 | NM_053420 | Bnip3 | BCL2/adenovirus E1B interacting protein 3 |
| B10 | Rn.10562 | NM_012922 | Casp3 | Caspase 3 |
| B11 | Rn.54474 | NM_022277 | Casp8 | Caspase 8 |
| B12 | Rn.115253 | NM_153624 | Cdig2 | Cdig2 protein |
| C01 | Rn.29897 | NM_031762 | Cdkn1b | Cyclin-dependent kinase inhibitor 1B |
| C02 | Rn.48717 | NM_031550 | Cdkn2a | Cyclin-dependent kinase inhibitor 2A |
| C03 | Rn.102386 | NM_001006971 | Cln3 | Ceroid-lipofuscinosis, neuronal 3 |
| C04 | Rn.100909 | NM_022597 | Ctsb | Cathepsin B |
| C05 | Rn.11085 | NM_134334 | Ctsd | Cathepsin D |
| C06 | Rn.11347 | NM_017320 | Ctss | Cathepsin S |
| C07 | Rn.44431 | NM_022205 | Cxcr4 | Chemokine (C-X-C motif) receptor 4 |
| C08 | Rn.23108 | NM_001107335 | Dapk1 | Death associated protein kinase 1 |
| C09 | Rn.1279 | NM_001025018 | Dram2 | DNA-damage regulated autophagy modulator 2 |
| C10 | Rn.24897 | NM_031599 | Eif2ak3 | Eukaryotic translation initiation factor 2 alpha kinase 3 |
| C11 | Rn.101803 | XM_213569 | Eif4g1 | Eukaryotic translation initiation factor 4 gamma, 1 |
| C12 | Rn.10595 | NM_012689 | Esr1 | Estrogen receptor 1 |
| D01 | Rn.16183 | NM_152937 | Fadd | Fas (TNFRSF6)-associated via death domain |
| D02 | Rn.162521 | NM_139194 | Fas | Fas (TNF receptor superfamily, member 6) |
| D03 | Rn.162368 | NM_199118 | Gaa | Glucosidase, alpha, acid |
| D04 | Rn.8411 | NM_172036 | Gabarap | GABA(A) receptor-associated protein |
| D05 | Rn.64537 | NM_022706 | Gabarapl2 | GABA(A) receptor-associated protein like 2 |
| D06 | Rn.1863 | NM_001025409 | Hdac1 | Histone deacetylase 1 |
| D07 | Rn.13453 | XM_228753 | Hdac6 | Histone deacetylase 6 |
| D08 | Rn.21 | NM_019387 | Hgs | Hepatocyte growth factor-regulated tyrosine kinase substrate |
| D09 | Rn.119867 | NM_175761 | Hsp90aa1 | Heat shock protein 90, alpha (cytosolic), class A member 1 |
| D10 | Rn.11193 | NM_024357 | Htt | Huntingtin |
| D11 | Rn.10795 | NM_138880 | Ilfng | Interferon gamma |
| D12 | Rn.6282 | NM_178866 | Igf1 | Insulin-like growth factor 1 |
| E01 | Rn.989 | NM_019130 | Ins2 | Insulin 2 |
| E02 | Rn.20356 | NM_001012007 | Irgm | Immunity-related GTPase family, M |
| E03 | Rn.40177 | NM_012857 | Lamp1 | Lysosomal-associated membrane protein 1 |
| E04 | Rn.3135 | NM_199500 | Map1lc3a | Microtubule-associated protein 1 light chain 3 alpha |
| E05 | Rn.41412 | NM_022867 | Map1lc3b | Microtubule-associated protein 1 light chain 3 beta |
| E06 | Rn.88085 | NM_031020 | Mapk14 | Mitogen activated protein kinase 14 |
| E07 | Rn.4090 | XM_341399 | Mapk8 | Mitogen-activated protein kinase 8 |
| E08 | Rn.2455 | NM_017212 | Mapt | Microtubule-associated protein tau |
| E09 | Rn.11008 | NM_019906 | Mtor | Mechanistic target of rapamycin (serine/threonine kinase) |

| Position | UniGene | GenBank | Symbol | Description |
|----------|-----------|--------------|----------------|--|
| E10 | Rn.2411 | XM_342346 | Nfkb1 | Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1 |
| E11 | Rn.207194 | NM_020093 | Park2 | Parkinson disease (autosomal recessive, juvenile) 2, parkin |
| E12 | Rn.30105 | NM_057143 | Park7 | Parkinson disease (autosomal recessive, early onset) 7 |
| F01 | Rn.30010 | NM_022958 | Pik3c3 | Phosphoinositide-3-kinase, class 3 |
| F02 | Rn.152697 | NM_001106723 | Pik3cg | Phosphoinositide-3-kinase, catalytic, gamma polypeptide |
| F03 | Rn.8917 | NM_001108777 | Pik3r4 | Phosphoinositide-3-kinase, regulatory subunit 4 |
| F04 | Rn.20580 | NM_001172103 | Pim2 | Pim-2 oncogene |
| F05 | Rn.219286 | NM_001106694 | Pink1 | PTEN induced putative kinase 1 |
| F06 | Rn.87789 | NM_019142 | Prkaa1 | Protein kinase, AMP-activated, alpha 1 catalytic subunit |
| F07 | Rn.44440 | NM_019163 | Psen1 | Presenilin 1 |
| F08 | Rn.22158 | NM_031606 | Pten | Phosphatase and tensin homolog |
| F09 | Rn.6295 | NM_001015023 | Rab24 | RAB24, member RAS oncogene family |
| F10 | Rn.55115 | NM_017045 | Rb1 | Retinoblastoma 1 |
| F11 | Rn.33137 | NM_001107901 | Rb1cc1 | RB1-inducible coiled-coil 1 |
| F12 | Rn.4038 | NM_001007659 | RGD135931 0 | Similar to RIKEN cDNA 9430023L20 |
| G01 | Rn.88166 | NM_021661 | Rgs19 | Regulator of G-protein signaling 19 |
| G02 | Rn.4042 | NM_031985 | Rps6kb1 | Ribosomal protein S6 kinase, polypeptide 1 |
| G03 | Rn.1827 | NM_019169 | Snca | Synuclein, alpha (non A4 component of amyloid precursor) |
| G04 | Rn.107103 | NM_181550 | Sqstm1 | Sequestosome 1 |
| G05 | Rn.40136 | NM_021578 | Tgfb1 | Transforming growth factor, beta 1 |
| G06 | Rn.10 | NM_019386 | Tgm2 | Transglutaminase 2, C polypeptide |
| G07 | Rn.12071 | NM_001012155 | Tm9sf1 | Transmembrane 9 superfamily member 1 |
| G08 | Rn.2275 | NM_012675 | Tnf | Tumor necrosis factor (TNF superfamily, member 2) |
| G09 | Rn.83627 | NM_145681 | Tnfsf10 | Tumor necrosis factor (ligand) superfamily, member 10 |
| G10 | Rn.54443 | NM_030989 | Tp53 | Tumor protein p53 |
| G11 | Rn.24509 | NM_001108341 | Ulk1 | Unc-51 like kinase 1 (C. elegans) |
| G12 | Rn.203725 | NM_001127297 | Wipi1 | WD repeat domain, phosphoinositide interacting 1 |
| 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. |
|---|--|----------|
| 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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