# RT² Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

# Rat Alzheimer's Disease

### Cat. no. 330231 PARN-057ZA

### For pathway expression analysis

| Format | For use with the following real-time cyclers |
|---|---|
| RT² Profiler PCR Array, Format A | Applied Biosystems® models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad® models iCycler®, iQ™5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf® Mastercycler® ep realplex models 2, 2s, 4, 4s; Stratagene® models Mx3005P®, Mx3000P®; Takara TP-800 |
| RT² Profiler PCR Array, Format C | Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block) |
| RT² Profiler PCR Array, Format D | Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000® |
| RT² Profiler PCR Array, Format E | Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™ |
| RT² Profiler PCR Array, Format F | Roche® LightCycler® 480 (96-well block) |
| RT² Profiler PCR Array, Format G | Roche LightCycler 480 (384-well block) |
| RT² Profiler PCR Array, Format H | Fluidigm® BioMark™ |

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## Description

The Rat Alzheimer's Disease RT² Profiler™ PCR Array profiles the expression of 84 genes important in the onset, development, and progression of Alzheimer's disease. The array includes genes that contribute to amyloid betapeptide (Aß) generation, clearance, and degradation, as well as genes involved in amyloid beta-peptide (Aß) signal transduction leading to neuronal toxicity and inflammation. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to Alzheimer's Disease with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

## Shipping and storage

RT² Profiler PCR Arrays in formats A, C, D, E, F, and G are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products. RT² Profiler PCR Arrays in format H are shipped on dry ice or blue ice packs.

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 (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT² Profiler PCR Array Handbook* for layout.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | A2m | Abca1 | Ache | Adam9 | Apba1 | Apba3 | Apbb1 | Apbb2 | Aph1a | Aplp2 | Apoa1 | Apoe |
| B | App | Bace1 | Bace2 | Bche | Bdnf | Capn1 | Casp3 | Casp4 | Cdk1 | Cdk5 | Cdkl1 | Chat |
| C | Clu | Ctsb | Ctsc | Ctsd | Ctsg | Ctsl1 | Ep300 | Gap43 | Gnao1 | Gnaz | Gnb1 | Gnb2 |
| D | Gnb4 | Gnb5 | Gng10 | Gng11 | Gng5 | Gng7 | Gng8 | Gsk3a | Gsk3b | Hsd17b10 | Ide | Igf2 |
| E | Il1a | Il1b | Ins2 | Insr | Lpl | Lrp1 | Lrp6 | Map2 | Mapt | Mpo | Mt3 | Nae1 |
| F | Ncstn | Ndufb8 | Pkp4 | Plat | Plau | Plg | Ppp3cc | Prkca | Prkcb | Prkcd | Prkce | Prkcg |
| G | Prkci | Prkcq | Prkcz | Psen1 | Psen2 | Serpina3k | Serpina3n | Snca | Sncb | Ubqln1 | Uqcrc1 | Uqcrc2 |
| H | Actb | B2m | Hprt1 | Ldha | Rplp1 | RGDC | RTC | RTC | RTC | PPC | PPC | PPC |

## Gene table: RT² Profiler PCR Array

| Position | UniGene | GenBank | Symbol | Description |
|---|---|---|---|---|
| A01 | Rn.198688 | NM_012488 | A2m | Alpha-2-macroglobulin |
| A02 | Rn.148916 | NM_178095 | Abca1 | ATP-binding cassette, subfamily A (ABC1), member 1 |
| A03 | Rn.105879 | NM_172009 | Ache | Acetylcholinesterase |
| A04 | Rn.25221 | NM_001014772 | Adam9 | ADAM metallopeptidase domain 9 (meltrin gamma) |
| A05 | Rn.54819 | NM_031779 | Apba1 | Amyloid beta (A4) precursor protein-binding, family A, member 1 |
| A06 | Rn.6924 | NM_031781 | Apba3 | Amyloid beta (A4) precursor protein-binding, family A, member 3 |
| A07 | Rn.19953 | NM_080478 | Apbb1 | Amyloid beta (A4) precursor protein-binding, family B, member 1 (Fe65) |
| A08 | Rn.24283 | XM_223399 | Apbb2 | Amyloid beta (A4) precursor protein-binding, family B, member 2 |
| A09 | Rn.22786 | NM_001014255 | Aph1a | Anterior pharynx defective 1 homolog A (C. elegans) |
| A10 | Rn.1423 | XM_343513 | Aplp2 | Amyloid beta (A4) precursor-like protein 2 |
| A11 | Rn.10308 | NM_012738 | Apoa1 | Apolipoprotein A-I |
| A12 | Rn.32351 | NM_138828 | Apoe | Apolipoprotein E |
| B01 | Rn.2104 | NM_019288 | App | Amyloid beta (A4) precursor protein |
| B02 | Rn.207201 | NM_019204 | Bace1 | Beta-site APP cleaving enzyme 1 |
| B03 | Rn.38581 | NM_001002802 | Bace2 | Beta-site APP-cleaving enzyme 2 |
| B04 | Rn.48791 | NM_022942 | Bche | Butyrylcholinesterase |
| B05 | Rn.11266 | NM_012513 | Bdnf | Brain-derived neurotrophic factor |
| B06 | Rn.6037 | NM_019152 | Capn1 | Calpain 1 |
| B07 | Rn.10562 | NM_012922 | Casp3 | Caspase 3 |
| B08 | Rn.16195 | NM_053736 | Casp4 | Caspase 4, apoptosis-related cysteine peptidase |
| B09 | Rn.6934 | NM_019296 | Cdk1 | Cyclin-dependent kinase 1 |
| B10 | Rn.10749 | NM_080885 | Cdk5 | Cyclin-dependent kinase 5 |
| B11 | Rn.182073 | NM_001025121 | Cdkl1 | Cyclin-dependent kinase-like 1 (CDC2-related kinase) |
| B12 | Rn.104846 | XM_224626 | Chat | Choline acetyltransferase |
| C01 | Rn.1780 | NM_053021 | Clu | Clusterin |
| C02 | Rn.100909 | NM_022597 | Ctsb | Cathepsin B |
| C03 | Rn.203177 | NM_017097 | Ctsc | Cathepsin C |
| C04 | Rn.11085 | NM_134334 | Ctsd | Cathepsin D |
| C05 | Rn.103332 | NM_001106041 | Ctsg | Cathepsin G |
| C06 | Rn.1294 | NM_013156 | Ctsl1 | Cathepsin L1 |
| C07 | Rn.12447 | XM_576312 | Ep300 | E1A binding protein p300 |
| C08 | Rn.10928 | NM_017195 | Gap43 | Growth associated protein 43 |
| C09 | Rn.90161 | NM_017327 | Gnao1 | Guanine nucleotide binding protein (G protein), alpha activating activity polypeptide O |
| C10 | Rn.10943 | NM_013189 | Gnaz | Guanine nucleotide binding protein (G protein), alpha z polypeptide |
| C11 | Rn.126047 | NM_030987 | Gnb1 | Guanine nucleotide binding protein (G protein), beta polypeptide 1 |
| C12 | Rn.1155 | NM_031037 | Gnb2 | Guanine nucleotide binding protein (G protein), beta polypeptide 2 |
| D01 | Rn.10844 | NM_001013910 | Gnb4 | Guanine nucleotide binding protein (G protein), beta polypeptide 4 |
| D02 | Rn.23042 | NM_031770 | Gnb5 | Guanine nucleotide binding protein (G protein), beta 5 |
| D03 | Rn.3319 | NM_053660 | Gng10 | Guanine nucleotide binding protein (G protein), gamma 10 |
| D04 | Rn.892 | NM_022396 | Gng11 | Guanine nucleotide binding protein (G protein), gamma 11 |
| D05 | Rn.2695 | NM_024377 | Gng5 | Guanine nucleotide binding protein (G protein), gamma 5 |
| D06 | Rn.11335 | NM_024138 | Gng7 | Guanine nucleotide binding protein (G protein), gamma 7 |
| D07 | Rn.11233 | NM_139185 | Gng8 | Guanine nucleotide binding protein (G protein), gamma 8 |
| D08 | Rn.36807 | NM_017344 | Gsk3a | Glycogen synthase kinase 3 alpha |

| Position | UniGene | GenBank | Symbol | Description |
|---|---|---|---|---|
| D09 | Rn.10426 | NM_032080 | Gsk3b | Glycogen synthase kinase 3 beta |
| D10 | Rn.2700 | NM_031682 | Hsd17b10 | Hydroxysteroid (17-beta) dehydrogenase 10 |
| D11 | Rn.45029 | NM_013159 | Ide | Insulin degrading enzyme |
| D12 | Rn.118681 | NM_031511 | Igf2 | Insulin-like growth factor 2 |
| E01 | Rn.12300 | NM_017019 | Il1a | Interleukin 1 alpha |
| E02 | Rn.9869 | NM_031512 | Il1b | Interleukin 1 beta |
| E03 | Rn.989 | NM_019130 | Ins2 | Insulin 2 |
| E04 | Rn.9876 | NM_017071 | Insr | Insulin receptor |
| E05 | Rn.3834 | NM_012598 | Lpl | Lipoprotein lipase |
| E06 | Rn.22436 | XM_243524 | Lrp1 | Low density lipoprotein-related protein 1 (alpha-2-macroglobulin receptor) |
| E07 | Rn.32960 | NM_001107892 | Lrp6 | Low density lipoprotein receptor-related protein 6 |
| E08 | Rn.10484 | NM_013066 | Map2 | Microtubule-associated protein 2 |
| E09 | Rn.2455 | NM_017212 | Mapt | Microtubule-associated protein tau |
| E10 | Rn.47782 | NM_001107036 | Mpo | Myeloperoxidase |
| E11 | Rn.11325 | NM_053968 | Mt3 | Metallothionein 3 |
| E12 | Rn.4279 | NM_032072 | Nae1 | NEDD8 activating enzyme E1 subunit 1 |
| F01 | Rn.51975 | NM_174864 | Ncstn | Nicastrin |
| F02 | Rn.3383 | NM_001106360 | Ndufb8 | NADH dehydrogenase (ubiquinone) 1 beta subcomplex 8 |
| F03 | Rn.17389 | NM_001106482 | Pkp4 | Plakophilin 4 |
| F04 | Rn.107102 | NM_013151 | Plat | Plasminogen activator, tissue |
| F05 | Rn.6064 | NM_013085 | Plau | Plasminogen activator, urokinase |
| F06 | Rn.20178 | NM_053491 | Plg | Plasminogen |
| F07 | Rn.22079 | NM_134367 | Ppp3cc | Protein phosphatase 3, catalytic subunit, gamma isoform |
| F08 | Rn.207908 | NM_001105713 | Prkca | Protein kinase C, alpha |
| F09 | Rn.91118 | NM_012713 | Prkcb | Protein kinase C, beta |
| F10 | Rn.98279 | NM_133307 | Prkcd | Protein kinase C, delta |
| F11 | Rn.216481 | NM_017171 | Prkce | Protein kinase C, epsilon |
| F12 | Rn.9747 | NM_012628 | Prkcg | Protein kinase C, gamma |
| G01 | Rn.1388 | NM_032059 | Prkci | Protein kinase C, iota |
| G02 | Rn.8227 | XM_341553 | Prkcq | Protein kinase C, theta |
| G03 | Rn.1109 | NM_022507 | Prkcz | Protein kinase C, zeta |
| G04 | Rn.44440 | NM_019163 | Psen1 | Presenilin 1 |
| G05 | Rn.11045 | NM_031087 | Psen2 | Presenilin 2 |
| G06 | Rn.91257 | NM_012657 | Serpina3k | Serine (or cysteine) peptidase inhibitor, clade A, member 3K |
| G07 | Rn.202939 | NM_031531 | Serpina3n | Serine (or cysteine) peptidase inhibitor, clade A, member 3N |
| G08 | Rn.1827 | NM_019169 | Snca | Synuclein, alpha (non A4 component of amyloid precursor) |
| G09 | Rn.20352 | NM_080777 | Sncb | Synuclein, beta |
| G10 | Rn.94864 | NM_053747 | Ubqln1 | Ubiquilin 1 |
| G11 | Rn.3428 | NM_001004250 | Uqcrc1 | Ubiquinol-cytochrome c reductase core protein I |
| G12 | Rn.2334 | NM_001006970 | Uqcrc2 | Ubiquinol cytochrome c reductase core protein 2 |
| 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 qPCR Mastermix (2)* | For 2 x 96 assays in 96-well plates; suitable for use with real-time cyclers that do not require a reference dye, including: Bio-Rad models CFX96, CFX384, DNA Engine Opticon 2; Bio-Rad/MJ Research Chromo4; Roche LightCycler 480 (96-well and 384-well); all other cyclers | 330500 |
| RT² SYBR Green ROX™ qPCR Mastermix (2)* | For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Applied Biosystems models 5700, 7000, 7300, 7500 [Standard and FAST], 7700, 7900HT 96-well block [Standard and FAST] and 384-well block, StepOnePlus; Eppendorf Mastercycler ep realplex models 2, 2S, 4, 4S; Stratagene models Mx3000P, Mx3005P, Mx4000; Takara TP-800 | 330520 |
| RT² SYBR Green Fluor qPCR Mastermix (2)* | For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Bio-Rad models iCycler, iQ5, MyiQ, MyiQ2 | 330510 |

* 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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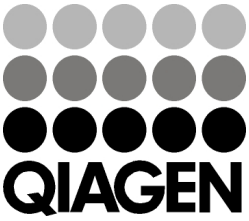


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