

# RT<sup>2</sup> Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

## Mouse Cellular Stress Responses

Cat. no. 330231 PAMM-019ZA

For pathway expression analysis

| Format                                       | For use with the following real-time cyclers                                                                                                                                                                                                                                          |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RT <sup>2</sup> 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 |
| RT <sup>2</sup> Profiler PCR Array, Format C | Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)                                                                                                                                                                                   |
| RT <sup>2</sup> Profiler PCR Array, Format D | Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®                                                                                                                                                                              |
| RT <sup>2</sup> Profiler PCR Array, Format E | Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™                                                                                                                                                                                           |
| RT <sup>2</sup> Profiler PCR Array, Format F | Roche® LightCycler® 480 (96-well block)                                                                                                                                                                                                                                               |
| RT <sup>2</sup> Profiler PCR Array, Format G | Roche LightCycler 480 (384-well block)                                                                                                                                                                                                                                                |
| RT <sup>2</sup> Profiler PCR Array, Format H | Fluidigm® BioMark™                                                                                                                                                                                                                                                                    |



Sample & Assay Technologies

## Description

The Mouse Cellular Stress Responses RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 genes involved in cellular stress response. This array includes genes encoding antioxidant and pro-oxidant enzymes, molecular chaperones and proteins involved in xenobiotic metabolism. Representative heat shock proteins and cytochrome P450 genes are also included. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to cellular stress response with this array.

For further details, consult the *RT<sup>2</sup> Profiler PCR Array Handbook*.

## Shipping and storage

RT<sup>2</sup> 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. RT<sup>2</sup> 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 RT<sup>2</sup> Profiler PCR Array format for your real-time cycler (see table above).

**Note:** Open the package and store the products appropriately immediately on receipt.

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# Array layout (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT<sup>2</sup> Profiler PCR Array Handbook* for layout.

|          | 1       | 2      | 3       | 4       | 5        | 6        | 7      | 8      | 9      | 10      | 11      | 12      |
|----------|---------|--------|---------|---------|----------|----------|--------|--------|--------|---------|---------|---------|
| <b>A</b> | Acadsb  | Bag1   | Calr    | Canx    | Cat      | Cct2     | Cct3   | Cct4   | Cct5   | Cct7    | Cct8    | Ces1g   |
| <b>B</b> | Clu     | Cryaa  | Cryab   | Cyp11a1 | Cyp11b2  | Cyp17a1  | Cyp1a1 | Cyp1a2 | Cyp1b1 | Cyp2c29 | Cyp2c38 | Cyp2d22 |
| <b>C</b> | Cyp2e1  | Cyp2f2 | Cyp4a10 | Cyp4b1  | Cyp7a1   | Cyp7b1   | Dnaja1 | Dnaja2 | Dnaja3 | Dnaja4  | Dnajb1  | Dnajb11 |
| <b>D</b> | Dnajb12 | Dnajb2 | Dnajb4  | Dnajb5  | Dnajb6   | Dnajb9   | Dnajc1 | Dnajc4 | Dnajc5 | Dnajc6  | Dnajc7  | Dnajc8  |
| <b>E</b> | Dnajc9  | Ephx2  | Fmo1    | Fmo4    | Fmo5     | Gpx1     | Gpx2   | Gsr    | Gsta1  | Gstk1   | Gstm1   | Gsta1   |
| <b>F</b> | Hmax1   | Hmax2  | Hapx    | Hspa12a | Hspa1a   | Hspa1l   | Hspa2  | Hspa4  | Hspa5  | Hspa8   | Hspa9   | Hspb1   |
| <b>G</b> | Hspb2   | Hspb3  | Hspd1   | Hspe1   | Ppid     | Serpinh1 | Sod1   | Sod2   | Sod3   | Stt3    | Tcp1    | Xdh     |
| <b>H</b> | Actb    | B2m    | Gapdh   | Gusb    | Hsp90ab1 | MGDC     | RTC    | RTC    | RTC    | PPC     | PPC     | PPC     |

# Gene table: RT<sup>2</sup> Profiler PCR Array

| Position | UniGene   | GenBank   | Symbol  | Description                                            |
|----------|-----------|-----------|---------|--------------------------------------------------------|
| A01      | Mm.334274 | NM_025826 | Acadsb  | Acyl-Coenzyme A dehydrogenase, short/branched chain    |
| A02      | Mm.688    | NM_009736 | Bag1    | Bcl2-associated athanogene 1                           |
| A03      | Mm.1971   | NM_007591 | Calr    | Calreticulin                                           |
| A04      | Mm.248827 | NM_007597 | Canx    | Calnexin                                               |
| A05      | Mm.4215   | NM_009804 | Cat     | Catalase                                               |
| A06      | Mm.247788 | NM_007636 | Cct2    | Chaperonin containing Tcp1, subunit 2 (beta)           |
| A07      | Mm.256034 | NM_009836 | Cct3    | Chaperonin containing Tcp1, subunit 3 (gamma)          |
| A08      | Mm.296985 | NM_009837 | Cct4    | Chaperonin containing Tcp1, subunit 4 (delta)          |
| A09      | Mm.282158 | NM_007637 | Cct5    | Chaperonin containing Tcp1, subunit 5 (epsilon)        |
| A10      | Mm.289900 | NM_007638 | Cct7    | Chaperonin containing Tcp1, subunit 7 (eta)            |
| A11      | Mm.328673 | NM_009840 | Cct8    | Chaperonin containing Tcp1, subunit 8 (theta)          |
| A12      | Mm.22720  | NM_021456 | Ces1g   | Carboxylesterase 1G                                    |
| B01      | Mm.200608 | NM_013492 | Clu     | Clusterin                                              |
| B02      | Mm.1228   | NM_013501 | Cryaa   | Crystallin, alpha A                                    |
| B03      | Mm.178    | NM_009964 | Cryab   | Crystallin, alpha B                                    |
| B04      | Mm.302865 | NM_019779 | Cyp11a1 | Cytochrome P450, family 11, subfamily a, polypeptide 1 |
| B05      | Mm.377079 | NM_009991 | Cyp11b2 | Cytochrome P450, family 11, subfamily b, polypeptide 2 |
| B06      | Mm.1262   | NM_007809 | Cyp17a1 | Cytochrome P450, family 17, subfamily a, polypeptide 1 |
| B07      | Mm.14089  | NM_009992 | Cyp1a1  | Cytochrome P450, family 1, subfamily a, polypeptide 1  |
| B08      | Mm.15537  | NM_009993 | Cyp1a2  | Cytochrome P450, family 1, subfamily a, polypeptide 2  |
| B09      | Mm.214016 | NM_009994 | Cyp1b1  | Cytochrome P450, family 1, subfamily b, polypeptide 1  |
| B10      | Mm.20764  | NM_007815 | Cyp2c29 | Cytochrome P450, family 2, subfamily c, polypeptide 29 |
| B11      | Mm.42100  | NM_010002 | Cyp2c38 | Cytochrome P450, family 2, subfamily c, polypeptide 38 |
| B12      | Mm.474216 | NM_019823 | Cyp2d22 | Cytochrome P450, family 2, subfamily d, polypeptide 22 |
| C01      | Mm.21758  | NM_021282 | Cyp2e1  | Cytochrome P450, family 2, subfamily e, polypeptide 1  |
| C02      | Mm.4515   | NM_007817 | Cyp2f2  | Cytochrome P450, family 2, subfamily f, polypeptide 2  |
| C03      | Mm.10742  | NM_010011 | Cyp4a10 | Cytochrome P450, family 4, subfamily a, polypeptide 10 |
| C04      | Mm.1840   | NM_007823 | Cyp4b1  | Cytochrome P450, family 4, subfamily b, polypeptide 1  |
| C05      | Mm.57029  | NM_007824 | Cyp7a1  | Cytochrome P450, family 7, subfamily a, polypeptide 1  |
| C06      | Mm.316000 | NM_007825 | Cyp7b1  | Cytochrome P450, family 7, subfamily b, polypeptide 1  |
| C07      | Mm.27897  | NM_008298 | Dnaja1  | DnaJ (Hsp40) homolog, subfamily A, member 1            |
| C08      | Mm.475573 | NM_019794 | Dnaja2  | DnaJ (Hsp40) homolog, subfamily A, member 2            |
| C09      | Mm.325524 | NM_023646 | Dnaja3  | DnaJ (Hsp40) homolog, subfamily A, member 3            |
| C10      | Mm.28437  | NM_021422 | Dnaja4  | DnaJ (Hsp40) homolog, subfamily A, member 4            |
| C11      | Mm.282092 | NM_018808 | Dnajb1  | DnaJ (Hsp40) homolog, subfamily B, member 1            |
| C12      | Mm.37516  | NM_026400 | Dnajb11 | DnaJ (Hsp40) homolog, subfamily B, member 11           |
| D01      | Mm.103610 | NM_019965 | Dnajb12 | DnaJ (Hsp40) homolog, subfamily B, member 12           |
| D02      | Mm.248776 | NM_178055 | Dnajb2  | DnaJ (Hsp40) homolog, subfamily B, member 2            |
| D03      | Mm.458538 | NM_025926 | Dnajb4  | DnaJ (Hsp40) homolog, subfamily B, member 4            |
| D04      | Mm.20437  | NM_019874 | Dnajb5  | DnaJ (Hsp40) homolog, subfamily B, member 5            |
| D05      | Mm.290110 | NM_011847 | Dnajb6  | DnaJ (Hsp40) homolog, subfamily B, member 6            |
| D06      | Mm.27432  | NM_013760 | Dnajb9  | DnaJ (Hsp40) homolog, subfamily B, member 9            |
| D07      | Mm.246674 | NM_007869 | Dnajc1  | DnaJ (Hsp40) homolog, subfamily C, member 1            |
| D08      | Mm.10721  | NM_020566 | Dnajc4  | DnaJ (Hsp40) homolog, subfamily C, member 4            |
| D09      | Mm.140761 | NM_016775 | Dnajc5  | DnaJ (Hsp40) homolog, subfamily C, member 5            |

| Position | UniGene   | GenBank   | Symbol   | Description                                                 |
|----------|-----------|-----------|----------|-------------------------------------------------------------|
| D10      | Mm.76494  | NM_198412 | Dnajc6   | DnaJ (Hsp40) homolog, subfamily C, member 6                 |
| D11      | Mm.402409 | NM_019795 | Dnajc7   | DnaJ (Hsp40) homolog, subfamily C, member 7                 |
| D12      | Mm.29685  | NM_172400 | Dnajc8   | DnaJ (Hsp40) homolog, subfamily C, member 8                 |
| E01      | Mm.2871   | NM_134081 | Dnajc9   | DnaJ (Hsp40) homolog, subfamily C, member 9                 |
| E02      | Mm.15295  | NM_007940 | Ephx2    | Epoxide hydrolase 2, cytoplasmic                            |
| E03      | Mm.976    | NM_010231 | Fmo1     | Flavin containing monooxygenase 1                           |
| E04      | Mm.155164 | NM_144878 | Fmo4     | Flavin containing monooxygenase 4                           |
| E05      | Mm.385180 | NM_010232 | Fmo5     | Flavin containing monooxygenase 5                           |
| E06      | Mm.1090   | NM_008160 | Gpx1     | Glutathione peroxidase 1                                    |
| E07      | Mm.441856 | NM_030677 | Gpx2     | Glutathione peroxidase 2                                    |
| E08      | Mm.283573 | NM_010344 | Gsr      | Glutathione reductase                                       |
| E09      | Mm.467426 | NM_008181 | Gsta1    | Glutathione S-transferase, alpha 1 (Ya)                     |
| E10      | Mm.267014 | NM_029555 | Gstk1    | Glutathione S-transferase kappa 1                           |
| E11      | Mm.37199  | NM_010358 | Gstm1    | Glutathione S-transferase, mu 1                             |
| E12      | Mm.378931 | NM_010362 | Gsto1    | Glutathione S-transferase omega 1                           |
| F01      | Mm.276389 | NM_010442 | Hmox1    | Heme oxygenase (decycling) 1                                |
| F02      | Mm.272866 | NM_010443 | Hmox2    | Heme oxygenase (decycling) 2                                |
| F03      | Mm.181852 | NM_175606 | Hopx     | HOP homeobox                                                |
| F04      | Mm.39739  | NM_175199 | Hspa12a  | Heat shock protein 12A                                      |
| F05      | Mm.6388   | NM_010479 | Hspa1a   | Heat shock protein 1A                                       |
| F06      | Mm.14287  | NM_013558 | Hspa1l   | Heat shock protein 1-like                                   |
| F07      | Mm.296181 | NM_008301 | Hspa2    | Heat shock protein 2                                        |
| F08      | Mm.239865 | NM_008300 | Hspa4    | Heat shock protein 4                                        |
| F09      | Mm.330160 | NM_022310 | Hspa5    | Heat shock protein 5                                        |
| F10      | Mm.336743 | NM_031165 | Hspa8    | Heat shock protein 8                                        |
| F11      | Mm.209419 | NM_010481 | Hspa9    | Heat shock protein 9                                        |
| F12      | Mm.13849  | NM_013560 | Hspb1    | Heat shock protein 1                                        |
| G01      | Mm.1980   | NM_024441 | Hspb2    | Heat shock protein 2                                        |
| G02      | Mm.41410  | NM_019960 | Hspb3    | Heat shock protein 3                                        |
| G03      | Mm.1777   | NM_010477 | Hspd1    | Heat shock protein 1 (chaperonin)                           |
| G04      | Mm.215667 | NM_008303 | Hspe1    | Heat shock protein 1 (chaperonin 10)                        |
| G05      | Mm.295252 | NM_026352 | Ppid     | Peptidylprolyl isomerase D (cyclophilin D)                  |
| G06      | Mm.22708  | NM_009825 | Serpinh1 | Serine (or cysteine) peptidase inhibitor, clade H, member 1 |
| G07      | Mm.276325 | NM_011434 | Sod1     | Superoxide dismutase 1, soluble                             |
| G08      | Mm.290876 | NM_013671 | Sod2     | Superoxide dismutase 2, mitochondrial                       |
| G09      | Mm.2407   | NM_011435 | Sod3     | Superoxide dismutase 3, extracellular                       |
| G10      | Mm.180337 | NM_133726 | St13     | Suppression of tumorigenicity 13                            |
| G11      | Mm.439645 | NM_013686 | Tcp1     | T-complex protein 1                                         |
| G12      | Mm.11223  | NM_011723 | Xdh      | Xanthine dehydrogenase                                      |
| H01      | Mm.328431 | NM_007393 | Actb     | Actin, beta                                                 |
| H02      | Mm.163    | NM_009735 | B2m      | Beta-2 microglobulin                                        |
| H03      | Mm.343110 | NM_008084 | Gapdh    | Glyceraldehyde-3-phosphate dehydrogenase                    |
| H04      | Mm.3317   | NM_010368 | Gusb     | Glucuronidase, beta                                         |
| H05      | Mm.2180   | NM_008302 | Hsp90ab1 | Heat shock protein 90 alpha (cytosolic), class B member 1   |
| H06      | N/A       | SA_00106  | MGDC     | Mouse 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, RT<sup>2</sup> Profiler PCR Arrays should be used together with the RT<sup>2</sup> First Strand Kit for cDNA synthesis and RT<sup>2</sup> SYBR<sup>®</sup> Green qPCR Mastermixes for PCR.

| Product                                                         | Contents                                                                                                                                                                                                                                                                                                                                                            | Cat. no. |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| RT <sup>2</sup> First Strand Kit (12)                           | Enzymes and reagents for cDNA synthesis                                                                                                                                                                                                                                                                                                                             | 330401   |
| RT <sup>2</sup> 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   |
| RT <sup>2</sup> SYBR Green ROX <sup>™</sup> 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   |
| RT <sup>2</sup> 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.

RT<sup>2</sup> 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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