

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

## Mouse Pre-Eclampsia

Cat. no. 330231 PAMM-163ZA

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 Pre-Eclampsia RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes involved in dysregulation of placental development. Pre-eclampsia, a life-threatening disease, presents with high blood pressure during pregnancy, and delivery of the placenta provides the only cure. This disease is considered early-onset if the pregnancy is less than 32 weeks, and is otherwise called late-onset. The causes of pre-eclampsia are not entirely understood. Many patients show poor placental implantation, suggesting that pre-eclampsia begins very early in pregnancy, even though the symptoms only arise later. A potential molecular mechanism involves defective vascular remodeling by trophoblasts early in placental development. As the disease progresses, the placenta may become hypoxic, causing inflammation and oxidative stress. These processes result in the infiltration of immune cells such as T helper 1 (Th1) cells, neutrophils, and natural killer cells. A similar process results in intrauterine growth retardation, or insufficient fetal growth. Active areas of pre-eclampsia research include the effort to identify women with a high risk of pre-eclampsia during their pregnancy. In addition, research determining the key genes involved in pre-eclampsia may lead to novel therapeutic targets to inhibit or reverse the condition. Using real-time PCR, research studies can easily and reliably analyze the expression of a focused panel of genes involved in pre-eclampsia 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> | Abcc1     | Abcg2  | Adm   | Agtr1a  | Angpt2   | Apln    | Atp1b1 | Atp2a2 | Bcl6  | Bhlhe40 | C3    | Cav1  |
| <b>B</b> | Ccl12     | Cd40lg | Cdh13 | Cfd     | Clu      | Col14a1 | Cp     | Crh    | Crhbp | Cxcl10  | Cxcl9 | Cxcr4 |
| <b>C</b> | Cyp26a1   | Dcn    | Dusp1 | Edn1    | Eng      | F5      | Fabp4  | Flt1   | Flt4  | Fstl3   | H2-M3 | Hbegf |
| <b>D</b> | Hgf       | Hif1a  | Hp    | Hsd17b1 | Hsp90aa1 | Htr3a   | Htra1  | Ifng   | Igf1  | Igfbp3  | Il10  | Il11  |
| <b>E</b> | Il15      | Il18   | Il1a  | Il2     | Il6      | Inha    | Inhba  | Itgb3  | Kit   | Krt19   | Lep   | Lpl   |
| <b>F</b> | Mas1      | Mmp12  | Mmp9  | Ncam1   | Ndrp1    | Nos3    | Ntrk2  | Pappa2 | Pdgfd | Pgf     | Pgr   | Qpct  |
| <b>G</b> | Serpina3n | Sod1   | Spp1  | Stat1   | Tac1     | Tac2    | Tek    | Tgfb1  | Tnf   | Trem1   | Vcan  | Vegfa |
| <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.196634 | NM_008576 | Abcc1    | ATP-binding cassette, sub-family C (CFTR/MRP), member 1                  |
| A02      | Mm.333096 | NM_011920 | Abcg2    | ATP-binding cassette, sub-family G (WHITE), member 2                     |
| A03      | Mm.1408   | NM_009627 | Adm      | Adrenomedullin                                                           |
| A04      | Mm.35062  | NM_177322 | Agtr1a   | Angiotensin II receptor, type 1a                                         |
| A05      | Mm.439874 | NM_007426 | Angpt2   | Angiopietin 2                                                            |
| A06      | Mm.29262  | NM_013912 | Apln     | Apelin                                                                   |
| A07      | Mm.4550   | NM_009721 | Atp1b1   | ATPase, Na <sup>+</sup> /K <sup>+</sup> transporting, beta 1 polypeptide |
| A08      | Mm.227583 | NM_009722 | Atp2a2   | ATPase, Ca <sup>++</sup> transporting, cardiac muscle, slow twitch 2     |
| A09      | Mm.347398 | NM_009744 | Bcl6     | B-cell leukemia/lymphoma 6                                               |
| A10      | Mm.2436   | NM_011498 | Bhlhe40  | Basic helix-loop-helix family, member e40                                |
| A11      | Mm.19131  | NM_009778 | C3       | Complement component 3                                                   |
| A12      | Mm.28278  | NM_007616 | Cav1     | Caveolin 1, caveolae protein                                             |
| B01      | Mm.867    | NM_011331 | Ccl12    | Chemokine (C-C motif) ligand 12                                          |
| B02      | Mm.4861   | NM_011616 | Cd40lg   | CD40 ligand                                                              |
| B03      | Mm.334841 | NM_019707 | Cdh13    | Cadherin 13                                                              |
| B04      | Mm.4407   | NM_013459 | Cfd      | Complement factor D (adipsin)                                            |
| B05      | Mm.200608 | NM_013492 | Clu      | Clusterin                                                                |
| B06      | Mm.297859 | NM_181277 | Col14a1  | Collagen, type XIV, alpha 1                                              |
| B07      | Mm.13787  | NM_007752 | Cp       | Ceruloplasmin                                                            |
| B08      | Mm.290689 | NM_205769 | Crh      | Corticotropin releasing hormone                                          |
| B09      | Mm.316614 | NM_198408 | Crhbp    | Corticotropin releasing hormone binding protein                          |
| B10      | Mm.877    | NM_021274 | Cxcl10   | Chemokine (C-X-C motif) ligand 10                                        |
| B11      | Mm.766    | NM_008599 | Cxcl9    | Chemokine (C-X-C motif) ligand 9                                         |
| B12      | Mm.1401   | NM_009911 | Cxcr4    | Chemokine (C-X-C motif) receptor 4                                       |
| C01      | Mm.42230  | NM_007811 | Cyp26a1  | Cytochrome P450, family 26, subfamily a, polypeptide 1                   |
| C02      | Mm.56769  | NM_007833 | Dcn      | Decorin                                                                  |
| C03      | Mm.239041 | NM_013642 | Dusp1    | Dual specificity phosphatase 1                                           |
| C04      | Mm.14543  | NM_010104 | Edn1     | Endothelin 1                                                             |
| C05      | Mm.225297 | NM_007932 | Eng      | Endoglin                                                                 |
| C06      | Mm.12900  | NM_007976 | F5       | Coagulation factor V                                                     |
| C07      | Mm.582    | NM_024406 | Fabp4    | Fatty acid binding protein 4, adipocyte                                  |
| C08      | Mm.389712 | NM_010228 | Flt1     | FMS-like tyrosine kinase 1                                               |
| C09      | Mm.3291   | NM_008029 | Flt4     | FMS-like tyrosine kinase 4                                               |
| C10      | Mm.251710 | NM_031380 | Fstl3    | Follistatin-like 3                                                       |
| C11      | Mm.14437  | NM_013819 | H2-M3    | Histocompatibility 2, M region locus 3                                   |
| C12      | Mm.289681 | NM_010415 | Hbegf    | Heparin-binding EGF-like growth factor                                   |
| D01      | Mm.267078 | NM_010427 | Hgf      | Hepatocyte growth factor                                                 |
| D02      | Mm.3879   | NM_010431 | Hif1a    | Hypoxia inducible factor 1, alpha subunit                                |
| D03      | Mm.26730  | NM_017370 | Hp       | Haptoglobin                                                              |
| D04      | Mm.188939 | NM_010475 | Hsd17b1  | Hydroxysteroid (17-beta) dehydrogenase 1                                 |
| D05      | Mm.1843   | NM_010480 | Hsp90aa1 | Heat shock protein 90, alpha (cytosolic), class A member 1               |
| D06      | Mm.4831   | NM_013561 | Htr3a    | 5-hydroxytryptamine (serotonin) receptor 3A                              |
| D07      | Mm.30156  | NM_019564 | Htra1    | HtrA serine peptidase 1                                                  |
| D08      | Mm.240327 | NM_008337 | Ifng     | Interferon gamma                                                         |
| D09      | Mm.268521 | NM_010512 | Igf1     | Insulin-like growth factor 1                                             |

| Position | UniGene   | GenBank      | Symbol    | Description                                                  |
|----------|-----------|--------------|-----------|--------------------------------------------------------------|
| D10      | Mm.29254  | NM_008343    | Igfbp3    | Insulin-like growth factor binding protein 3                 |
| D11      | Mm.874    | NM_010548    | Il10      | Interleukin 10                                               |
| D12      | Mm.35814  | NM_008350    | Il11      | Interleukin 11                                               |
| E01      | Mm.4392   | NM_008357    | Il15      | Interleukin 15                                               |
| E02      | Mm.1410   | NM_008360    | Il18      | Interleukin 18                                               |
| E03      | Mm.15534  | NM_010554    | Il1a      | Interleukin 1 alpha                                          |
| E04      | Mm.14190  | NM_008366    | Il2       | Interleukin 2                                                |
| E05      | Mm.1019   | NM_031168    | Il6       | Interleukin 6                                                |
| E06      | Mm.1100   | NM_010564    | Inha      | Inhibin alpha                                                |
| E07      | Mm.8042   | NM_008380    | Inhba     | Inhibin beta-A                                               |
| E08      | Mm.87150  | NM_016780    | Itgb3     | Integrin beta 3                                              |
| E09      | Mm.247073 | NM_021099    | Kit       | Kit oncogene                                                 |
| E10      | Mm.439699 | NM_008471    | Krt19     | Keratin 19                                                   |
| E11      | Mm.277072 | NM_008493    | Lep       | Leptin                                                       |
| E12      | Mm.1514   | NM_008509    | Lpl       | Lipoprotein lipase                                           |
| F01      | Mm.425994 | NM_008552    | Mas1      | MAS1 oncogene                                                |
| F02      | Mm.2055   | NM_008605    | Mmp12     | Matrix metalloproteinase 12                                  |
| F03      | Mm.4406   | NM_013599    | Mmp9      | Matrix metalloproteinase 9                                   |
| F04      | Mm.4974   | NM_010875    | Ncam1     | Neural cell adhesion molecule 1                              |
| F05      | Mm.30837  | NM_008681    | Ndrp1     | N-myc downstream regulated gene 1                            |
| F06      | Mm.258415 | NM_008713    | Nos3      | Nitric oxide synthase 3, endothelial cell                    |
| F07      | Mm.130054 | NM_008745    | Ntrk2     | Neurotrophic tyrosine kinase, receptor, type 2               |
| F08      | Mm.458621 | NM_001085376 | Pappa2    | Pappalysin 2                                                 |
| F09      | Mm.390122 | NM_027924    | Pdgfr     | Platelet-derived growth factor, D polypeptide                |
| F10      | Mm.4809   | NM_008827    | Pgf       | Placental growth factor                                      |
| F11      | Mm.12798  | NM_008829    | Pgr       | Progesterone receptor                                        |
| F12      | Mm.293870 | NM_027455    | Qpct      | Glutaminyl-peptide cyclotransferase (glutaminyl cyclase)     |
| G01      | Mm.482074 | NM_009252    | Serpina3n | Serine (or cysteine) peptidase inhibitor, clade A, member 3N |
| G02      | Mm.276325 | NM_011434    | Sod1      | Superoxide dismutase 1, soluble                              |
| G03      | Mm.288474 | NM_009263    | Spp1      | Secreted phosphoprotein 1                                    |
| G04      | Mm.277406 | NM_009283    | Stat1     | Signal transducer and activator of transcription 1           |
| G05      | Mm.1440   | NM_009311    | Tac1      | Tachykinin 1                                                 |
| G06      | Mm.2374   | NM_009312    | Tac2      | Tachykinin 2                                                 |
| G07      | Mm.14313  | NM_013690    | Tek       | Endothelial-specific receptor tyrosine kinase                |
| G08      | Mm.248380 | NM_011577    | Tgfb1     | Transforming growth factor, beta 1                           |
| G09      | Mm.1293   | NM_013693    | Tnf       | Tumor necrosis factor                                        |
| G10      | Mm.248352 | NM_021406    | Trem1     | Triggering receptor expressed on myeloid cells 1             |
| G11      | Mm.158700 | NM_001081249 | Vcan      | Versican                                                     |
| G12      | Mm.282184 | NM_009505    | Vegfa     | Vascular endothelial growth factor A                         |
| 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.

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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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