

# RT<sup>2</sup> Profiler PCR Array (Rotor-Gene® Format)

## Mouse Polycomb & Trithorax Target Genes

Cat. no. 330231 PAMM-505ZR

For pathway expression analysis

| Format                                       | For use with the following real-time cyclers |
|----------------------------------------------|----------------------------------------------|
| RT <sup>2</sup> Profiler PCR Array, Format R | Rotor-Gene Q, other Rotor-Gene cyclers       |

### Description

The Mouse Polycomb & Trithorax Target Genes RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes targeted by the Polycomb and Trithorax complexes of chromatin modification enzymes and remodeling factors. The polycomb and trithorax complexes maintain epigenetic control of cell type specific gene expression patterns important for cellular identity via histone modification. The polycomb complex causes transcriptional repression, while the trithorax complex reverses that effect to maintain an active state of transcription. Polycomb and trithorax complex activity controls the proper differentiation of induced and embryonic pluripotent stem cells, as confirmed via expression changes of identified target genes reflected in the content of this array. Dysregulation of polycomb and trithorax complex activity promotes oncogenesis by causing inappropriate expression of cell identity and differentiation genes, making the study of target gene expression important to cancer research. Using real-time PCR, your research study can easily and reliably analyze the expression of a focused panel of genes targeted by polycomb and trithorax complexes with this array.

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

### Shipping and storage

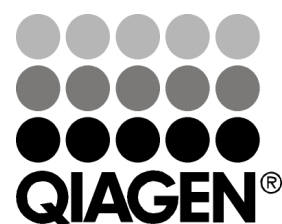
RT<sup>2</sup> Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

For long term storage, keep plates at –20°C.

**Note:** Ensure that you have the correct RT<sup>2</sup> Profiler PCR Array format for your real-time cycler (see table above).

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



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Sample & Assay Technologies

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

| Position | UniGene   | GenBank      | Symbol   | Description                                                         |
|----------|-----------|--------------|----------|---------------------------------------------------------------------|
| A01      | Mm.2706   | NM_007498    | Ahf3     | Activating transcription factor 3                                   |
| A02      | Mm.289584 | NM_007552    | Bmi1     | Bmi1 polycomb ring finger oncogene                                  |
| A03      | Mm.103205 | NM_007553    | Bmp2     | Bone morphogenetic protein 2                                        |
| A04      | Mm.234832 | NM_018770    | Cadm1    | Cell adhesion molecule 1                                            |
| A05      | Mm.99953  | NM_013926    | Cbx8     | Chromobox homolog 8 (Drosophila Pc class)                           |
| A06      | Mm.333406 | NM_009829    | Ccnd2    | Cyclin D2                                                           |
| A07      | Mm.307488 | NM_027219    | Cdc42ep1 | CDC42 effector protein (Rho GTPase binding) 1                       |
| A08      | Mm.1571   | NM_009866    | Cdh11    | Cadherin 11                                                         |
| A09      | Mm.195663 | NM_007669    | Cdkn1a   | Cyclin-dependent kinase inhibitor 1A (P21)                          |
| A10      | Mm.360747 | NM_021439    | Chst11   | Carbohydrate sulfotransferase 11                                    |
| A11      | Mm.359633 | NM_008906    | Ctsa     | Cathepsin A                                                         |
| A12      | Mm.425692 | NM_023158    | Cxcl16   | Chemokine (C-X-C motif) ligand 16                                   |
| B01      | Mm.6522   | NM_007722    | Cxcr7    | Chemokine (C-X-C motif) receptor 7                                  |
| B02      | Mm.214016 | NM_009994    | Cyp11b1  | Cytochrome P450, family 1, subfamily b, polypeptide 1               |
| B03      | Mm.180189 | NM_026384    | Dgat2    | Diacylglycerol O-acyltransferase 2                                  |
| B04      | Mm.324688 | NM_007857    | Dhh      | Desert hedgehog                                                     |
| B05      | Mm.214717 | NM_010051    | Dkk1     | Dickkopf homolog 1 (Xenopus laevis)                                 |
| B06      | Mm.103593 | NM_020265    | Dkk2     | Dickkopf homolog 2 (Xenopus laevis)                                 |
| B07      | Mm.3374   | NM_010110    | Efnb1    | Ephrin B1                                                           |
| B08      | Mm.400747 | NM_007936    | Epha4    | Eph receptor A4                                                     |
| B09      | Mm.6972   | NM_010143    | Ephb3    | Eph receptor B3                                                     |
| B10      | Mm.8017   | NM_007957    | Esx1     | Extraembryonic, spermatogenesis, homeobox 1                         |
| B11      | Mm.41261  | NM_001081241 | Fam65a   | Family with sequence similarity 65, member A                        |
| B12      | Mm.938    | NM_010446    | Foxa2    | Forkhead box A2                                                     |
| C01      | Mm.439721 | NM_008059    | G0s2     | G0/G1 switch gene 2                                                 |
| C02      | Mm.3982   | NM_019521    | Gas6     | Growth arrest specific 6                                            |
| C03      | Mm.272747 | NM_008090    | Gata2    | GATA binding protein 2                                              |
| C04      | Mm.313866 | NM_008091    | Gata3    | GATA binding protein 3                                              |
| C05      | Mm.247669 | NM_008092    | Gata4    | GATA binding protein 4                                              |
| C06      | Mm.329287 | NM_010258    | Gata6    | GATA binding protein 6                                              |
| C07      | Mm.12239  | NM_020567    | Gmnn     | Geminin                                                             |
| C08      | Mm.4746   | NM_008213    | Hand1    | Heart and neural crest derivatives expressed transcript 1           |
| C09      | Mm.390859 | NM_008235    | Hes1     | Hairy and enhancer of split 1 (Drosophila)                          |
| C10      | Mm.29581  | NM_010423    | Hey1     | Hairy/enhancer-of-split related with YRPW motif 1                   |
| C11      | Mm.5      | NM_008263    | Hoxa10   | Homeobox A10                                                        |
| C12      | Mm.173    | NM_010453    | Hoxa5    | Homeobox A5                                                         |
| D01      | Mm.12559  | NM_010474    | Hs3st1   | Heparan sulfate (glucosamine) 3-O-sulfotransferase 1                |
| D02      | Mm.252561 | NM_015819    | Hs6st2   | Heparan sulfate 6-O-sulfotransferase 2                              |
| D03      | Mm.21300  | NM_008341    | Igfbp1   | Insulin-like growth factor binding protein 1                        |
| D04      | Mm.2856   | NM_010559    | Il6ra    | Interleukin 6 receptor, alpha                                       |
| D05      | Mm.261591 | NM_010572    | Irs4     | Insulin receptor substrate 4                                        |
| D06      | Mm.238044 | NM_008393    | Irx3     | Iroquois related homeobox 3 (Drosophila)                            |
| D07      | Mm.275071 | NM_010591    | Jun      | Jun oncogene                                                        |
| D08      | Mm.40424  | NM_010595    | Kcna1    | Potassium voltage-gated channel, shaker-related subfamily, member 1 |
| D09      | Mm.4325   | NM_010637    | Klf4     | Kruppel-like factor 4 (gut)                                         |
| D10      | Mm.172    | NM_010728    | Lox      | Lysyl oxidase                                                       |
| D11      | Mm.247566 | NM_010825    | Meis2    | Meis homeobox 2                                                     |
| D12      | Mm.272197 | NM_011844    | Mgll     | Monoglyceride lipase                                                |
| E01      | Mm.260098 | NM_201600    | Myo5b    | Myosin Vb                                                           |
| E02      | Mm.20348  | NM_008695    | Nid2     | Nidogen 2                                                           |
| E03      | Mm.5142   | NM_008730    | Nptx1    | Neuronal pentraxin 1                                                |
| E04      | Mm.134516 | NM_144841    | Otx2     | Orthodenticle homolog 2 (Drosophila)                                |
| E05      | Mm.39738  | NM_001105245 | Pcdh19   | Protocadherin 19                                                    |
| E06      | Mm.221403 | NM_011058    | Pdgfra   | Platelet derived growth factor receptor, alpha polypeptide          |
| E07      | Mm.1237   | NM_008885    | Pmp22    | Peripheral myelin protein 22                                        |
| E08      | Mm.341677 | NM_008856    | Prkch    | Protein kinase C, eta                                               |
| E09      | Mm.263002 | NM_008926    | Prkg2    | Protein kinase, cGMP-dependent, type II                             |

| Position | UniGene   | GenBank      | Symbol   | Description                                                        |
|----------|-----------|--------------|----------|--------------------------------------------------------------------|
| E10      | Mm.224246 | NM_008980    | Ptpra    | Protein tyrosine phosphatase, receptor type, A                     |
| E11      | Mm.259318 | NM_011243    | Rarb     | Retinoic acid receptor, beta                                       |
| E12      | Mm.3903   | NM_009026    | Rasd1    | RAS, dexamethasone-induced 1                                       |
| F01      | Mm.12091  | NM_019713    | Rassf1   | Ras association (RalGDS/AF-6) domain family member 1               |
| F02      | Mm.270186 | NM_009031    | Rbbp7    | Retinoblastoma binding protein 7                                   |
| F03      | Mm.214361 | NM_021390    | Sall1    | Sal-like 1 (Drosophila)                                            |
| F04      | Mm.311655 | NM_009122    | Satb1    | Special AT-rich sequence binding protein 1                         |
| F05      | Mm.271870 | NM_011111    | Serpinb2 | Serine (or cysteine) peptidase inhibitor, clade B, member 2        |
| F06      | Mm.27801  | NM_011774    | Slc30a4  | Solute carrier family 30 (zinc transporter), member 4              |
| F07      | Mm.284891 | NM_011402    | Slc34a2  | Solute carrier family 34 (sodium phosphate), member 2              |
| F08      | Mm.30162  | NM_022315    | Smoc2    | SPARC related modular calcium binding 2                            |
| F09      | Mm.279103 | NM_011441    | Sox17    | SRY-box containing gene 17                                         |
| F10      | Mm.439913 | NM_020047    | Tacstd2  | Tumor-associated calcium signal transducer 2                       |
| F11      | Mm.31630  | NM_009331    | Tcf7     | Transcription factor 7, T-cell specific                            |
| F12      | Mm.24096  | NM_009378    | Thbd     | Thrombomodulin                                                     |
| G01      | Mm.3943   | NM_009379    | Thpo     | Thrombopoietin                                                     |
| G02      | Mm.4871   | NM_011595    | Timp3    | Tissue inhibitor of metalloproteinase 3                            |
| G03      | Mm.290353 | NM_026432    | Tmem66   | Transmembrane protein 66                                           |
| G04      | Mm.281356 | NM_013869    | Tnfrsf19 | Tumor necrosis factor receptor superfamily, member 19              |
| G05      | Mm.299155 | NM_011280    | Trim10   | Tripartite motif-containing 10                                     |
| G06      | Mm.307027 | NM_001024134 | Trim15   | Tripartite motif-containing 15                                     |
| G07      | Mm.131943 | NM_177341    | Trpm3    | Transient receptor potential cation channel, subfamily M, member 3 |
| G08      | Mm.102136 | NM_001081300 | Tshz1    | Teashirt zinc finger family member 1                               |
| G09      | Mm.4177   | NM_009463    | Ucp1     | Uncoupling protein 1 (mitochondrial, proton carrier)               |
| G10      | Mm.38976  | NM_144937    | Usp3     | Ubiquitin specific peptidase 3                                     |
| G11      | Mm.27005  | NM_012038    | Vsnl1    | Visinin-like 1                                                     |
| G12      | Mm.287544 | NM_009524    | Wnt5a    | Wingless-related MMTV integration site 5A                          |
| 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 ROX <sup>™</sup> 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.

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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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