

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

## Mouse Inflammatory Cytokines & Receptors

Cat. no. 330231 PAMM-011ZR

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 Inflammatory Cytokines & Receptors RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 key genes mediating the inflammatory response. Acute inflammation occurs in response to cell damage due to infection or injury. During this process, cellular and plasma derived factors encourage extravasation, the recruitment of circulating immune cells into the affected tissue. These immune cells in turn up-regulate the expression of inflammatory cytokines that recruit additional immune cells to mount an immune response to any invading organisms and to further promote and eventually resolve the inflammatory response. Chronic inflammation, or expression of these cytokines and receptors at low levels over long periods of time, promotes various pathological conditions including allergies and asthma, cardiovascular system disorders (atherosclerosis), central nervous system disorders (Alzheimer's disease), fibrosis, and rheumatoid arthritis. This array contains genes involved in mediating immune cascade reactions during inflammation. The chemokines, cytokines, and interleukins involved in the inflammatory response are represented as well as their receptors. Profiling the expression of these inflammatory cytokine and receptor genes helps determine the state of and the mechanisms behind inflammation in your experimental model system. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to inflammation 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.

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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 cyclers (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: RT<sup>2</sup> Profiler PCR Array

| Position | UniGene   | GenBank   | Symbol | Description                                                             |
|----------|-----------|-----------|--------|-------------------------------------------------------------------------|
| A01      | Mm.235137 | NM_007926 | Aimp1  | Aminoacyl tRNA synthetase complex-interacting multifunctional protein 1 |
| A02      | Mm.103205 | NM_007553 | Bmp2   | Bone morphogenetic protein 2                                            |
| A03      | Mm.1283   | NM_011329 | Ccl1   | Chemokine (C-C motif) ligand 1                                          |
| A04      | Mm.4686   | NM_011330 | Ccl11  | Chemokine (C-C motif) ligand 11                                         |
| A05      | Mm.867    | NM_011331 | Ccl12  | Chemokine (C-C motif) ligand 12                                         |
| A06      | Mm.41988  | NM_011332 | Ccl17  | Chemokine (C-C motif) ligand 17                                         |
| A07      | Mm.424740 | NM_011888 | Ccl19  | Chemokine (C-C motif) ligand 19                                         |
| A08      | Mm.290320 | NM_011333 | Ccl2   | Chemokine (C-C motif) ligand 2                                          |
| A09      | Mm.116739 | NM_016960 | Ccl20  | Chemokine (C-C motif) ligand 20                                         |
| A10      | Mm.12895  | NM_009137 | Ccl22  | Chemokine (C-C motif) ligand 22                                         |
| A11      | Mm.31505  | NM_019577 | Ccl24  | Chemokine (C-C motif) ligand 24                                         |
| A12      | Mm.1282   | NM_011337 | Ccl3   | Chemokine (C-C motif) ligand 3                                          |
| B01      | Mm.244263 | NM_013652 | Ccl4   | Chemokine (C-C motif) ligand 4                                          |
| B02      | Mm.284248 | NM_013653 | Ccl5   | Chemokine (C-C motif) ligand 5                                          |
| B03      | Mm.137    | NM_009139 | Ccl6   | Chemokine (C-C motif) ligand 6                                          |
| B04      | Mm.341574 | NM_013654 | Ccl7   | Chemokine (C-C motif) ligand 7                                          |
| B05      | Mm.42029  | NM_021443 | Ccl8   | Chemokine (C-C motif) ligand 8                                          |
| B06      | Mm.416125 | NM_011338 | Ccl9   | Chemokine (C-C motif) ligand 9                                          |
| B07      | Mm.274927 | NM_009912 | Ccr1   | Chemokine (C-C motif) receptor 1                                        |
| B08      | Mm.8021   | NM_007721 | Ccr10  | Chemokine (C-C motif) receptor 10                                       |
| B09      | Mm.6272   | NM_009915 | Ccr2   | Chemokine (C-C motif) receptor 2                                        |
| B10      | Mm.57050  | NM_009914 | Ccr3   | Chemokine (C-C motif) receptor 3                                        |
| B11      | Mm.1337   | NM_009916 | Ccr4   | Chemokine (C-C motif) receptor 4                                        |
| B12      | Mm.14302  | NM_009917 | Ccr5   | Chemokine (C-C motif) receptor 5                                        |
| C01      | Mm.8007   | NM_009835 | Ccr6   | Chemokine (C-C motif) receptor 6                                        |
| C02      | Mm.442098 | NM_007720 | Ccr8   | Chemokine (C-C motif) receptor 8                                        |
| C03      | Mm.4861   | NM_011616 | Cd40lg | CD40 ligand                                                             |
| C04      | Mm.795    | NM_007778 | Csf1   | Colony stimulating factor 1 (macrophage)                                |
| C05      | Mm.4922   | NM_009969 | Csf2   | Colony stimulating factor 2 (granulocyte-macrophage)                    |
| C06      | Mm.1238   | NM_009971 | Csf3   | Colony stimulating factor 3 (granulocyte)                               |
| C07      | Mm.103711 | NM_009142 | Cx3cl1 | Chemokine (C-X3-C motif) ligand 1                                       |
| C08      | Mm.21013  | NM_008176 | Cxcl1  | Chemokine (C-X-C motif) ligand 1                                        |
| C09      | Mm.877    | NM_021274 | Cxcl10 | Chemokine (C-X-C motif) ligand 10                                       |
| C10      | Mm.131723 | NM_019494 | Cxcl11 | Chemokine (C-X-C motif) ligand 11                                       |
| C11      | Mm.303231 | NM_021704 | Cxcl12 | Chemokine (C-X-C motif) ligand 12                                       |
| C12      | Mm.10116  | NM_018866 | Cxcl13 | Chemokine (C-X-C motif) ligand 13                                       |
| D01      | Mm.64326  | NM_011339 | Cxcl15 | Chemokine (C-X-C motif) ligand 15                                       |
| D02      | Mm.4660   | NM_009141 | Cxcl5  | Chemokine (C-X-C motif) ligand 5                                        |
| D03      | Mm.766    | NM_008599 | Cxcl9  | Chemokine (C-X-C motif) ligand 9                                        |
| D04      | Mm.234466 | NM_009909 | Cxcr2  | Chemokine (C-X-C motif) receptor 2                                      |
| D05      | Mm.12876  | NM_009910 | Cxcr3  | Chemokine (C-X-C motif) receptor 3                                      |
| D06      | Mm.6246   | NM_007551 | Cxcr5  | Chemokine (C-X-C motif) receptor 5                                      |
| D07      | Mm.3355   | NM_010177 | Fasl   | Fas ligand (TNF superfamily, member 6)                                  |
| D08      | Mm.240327 | NM_008337 | Ifng   | Interferon gamma                                                        |
| D09      | Mm.379327 | NM_008348 | Il10ra | Interleukin 10 receptor, alpha                                          |
| D10      | Mm.4154   | NM_008349 | Il10rb | Interleukin 10 receptor, beta                                           |
| D11      | Mm.35814  | NM_008350 | Il11   | Interleukin 11                                                          |
| D12      | Mm.1284   | NM_008355 | Il13   | Interleukin 13                                                          |
| E01      | Mm.4392   | NM_008357 | Il15   | Interleukin 15                                                          |
| E02      | Mm.10137  | NM_010551 | Il16   | Interleukin 16                                                          |
| E03      | Mm.5419   | NM_010552 | Il17a  | Interleukin 17A                                                         |
| E04      | Mm.59313  | NM_019508 | Il17b  | Interleukin 17B                                                         |
| E05      | Mm.222807 | NM_145856 | Il17f  | Interleukin 17F                                                         |
| E06      | Mm.15534  | NM_010554 | Il1a   | Interleukin 1 alpha                                                     |
| E07      | Mm.222830 | NM_008361 | Il1b   | Interleukin 1 beta                                                      |
| E08      | Mm.896    | NM_008362 | Il1r1  | Interleukin 1 receptor, type I                                          |
| E09      | Mm.882    | NM_031167 | Il1rn  | Interleukin 1 receptor antagonist                                       |

| Position | UniGene   | GenBank      | Symbol    | Description                                                              |
|----------|-----------|--------------|-----------|--------------------------------------------------------------------------|
| E10      | Mm.157689 | NM_021782    | Il21      | Interleukin 21                                                           |
| E11      | Mm.222632 | NM_145636    | Il27      | Interleukin 27                                                           |
| E12      | Mm.35287  | NM_008368    | Il2rb     | Interleukin 2 receptor, beta chain                                       |
| F01      | Mm.2923   | NM_013563    | Il2rg     | Interleukin 2 receptor, gamma chain                                      |
| F02      | Mm.983    | NM_010556    | Il3       | Interleukin 3                                                            |
| F03      | Mm.182359 | NM_133775    | Il33      | Interleukin 33                                                           |
| F04      | Mm.276360 | NM_021283    | Il4       | Interleukin 4                                                            |
| F05      | Mm.4461   | NM_010558    | Il5       | Interleukin 5                                                            |
| F06      | Mm.3448   | NM_008370    | Il5ra     | Interleukin 5 receptor, alpha                                            |
| F07      | Mm.2856   | NM_010559    | Il6ra     | Interleukin 6 receptor, alpha                                            |
| F08      | Mm.4364   | NM_010560    | Il6st     | Interleukin 6 signal transducer                                          |
| F09      | Mm.3825   | NM_008371    | Il7       | Interleukin 7                                                            |
| F10      | Mm.87787  | NM_010735    | Lta       | Lymphotoxin A                                                            |
| F11      | Mm.1715   | NM_008518    | Ltb       | Lymphotoxin B                                                            |
| F12      | Mm.2326   | NM_010798    | Mif       | Macrophage migration inhibitory factor                                   |
| G01      | Mm.202727 | NM_021524    | Nampt     | Nicotinamide phosphoribosyltransferase                                   |
| G02      | Mm.131422 | NM_001013365 | Osm       | Oncostatin M                                                             |
| G03      | Mm.332490 | NM_019932    | Pf4       | Platelet factor 4                                                        |
| G04      | Mm.288474 | NM_009263    | Spp1      | Secreted phosphoprotein 1                                                |
| G05      | Mm.1293   | NM_013693    | Tnf       | Tumor necrosis factor                                                    |
| G06      | Mm.15383  | NM_008764    | Tnfrsf11b | Tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin) |
| G07      | Mm.1062   | NM_009425    | Tnfsf10   | Tumor necrosis factor (ligand) superfamily, member 10                    |
| G08      | Mm.249221 | NM_011613    | Tnfsf11   | Tumor necrosis factor (ligand) superfamily, member 11                    |
| G09      | Mm.8983   | NM_023517    | Tnfsf13   | Tumor necrosis factor (ligand) superfamily, member 13                    |
| G10      | Mm.28835  | NM_033622    | Tnfsf13b  | Tumor necrosis factor (ligand) superfamily, member 13b                   |
| G11      | Mm.4994   | NM_009452    | Tnfsf4    | Tumor necrosis factor (ligand) superfamily, member 4                     |
| 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 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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