

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

## Rat Common Cytokines

Cat. no. 330231 PARN-021ZR

### For pathway expression analysis

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

### Description

The Rat Common Cytokines RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 important cytokine genes. This array includes interferons and interleukins as well as the bone morphogenetic proteins (BMP) and members of the TGF- $\beta$  family. Also represented are platelet-derived and vascular endothelial growth factors. Tumor necrosis factors are included as well as other cytokine-related genes. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to cytokines 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).

**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      | Rn.24299  | NM_144744    | Adipoq | Adiponectin, C1Q and collagen domain containing                         |
| A02      | Rn.3192   | NM_053757    | Aimp1  | Aminoacyl tRNA synthetase complex-interacting multifunctional protein 1 |
| A03      | Rn.10568  | NM_017123    | Areg   | Amphiregulin  |
| A04      | Rn.9305   | NM_031323    | Bmp1   | Bone morphogenetic protein 1  |
| A05      | Rn.90931  | NM_017178    | Bmp2   | Bone morphogenetic protein 2  |
| A06      | Rn.208979 | NM_017105    | Bmp3   | Bone morphogenetic protein 3  |
| A07      | Rn.10318  | NM_012827    | Bmp4   | Bone morphogenetic protein 4  |
| A08      | Rn.135799 | NM_001108168 | Bmp5   | Bone morphogenetic protein 5  |
| A09      | Rn.40476  | NM_013107    | Bmp6   | Bone morphogenetic protein 6  |
| A10      | Rn.18030  | XM_342591    | Bmp7   | Bone morphogenetic protein 7  |
| A11      | Rn.21259  | XM_342421    | C5     | Complement component 5  |
| A12      | Rn.44218  | NM_053353    | Cd40lg | CD40 ligand   |
| B01      | Rn.103013 | NM_001106878 | Cd70   | Cd70 molecule   |
| B02      | Rn.6067   | NM_013166    | Cnif   | Ciliary neurotrophic factor   |
| B03      | Rn.83632  | NM_023981    | Csf1   | Colony stimulating factor 1 (macrophage)                                |
| B04      | Rn.44285  | XM_340799    | Csf2   | Colony stimulating factor 2 (granulocyte-macrophage)                    |
| B05      | Rn.53973  | NM_017104    | Csf3   | Colony stimulating factor 3 (granulocyte)                               |
| B06      | Rn.10253  | NM_017129    | Ctf1   | Cardiotrophin 1   |
| B07      | Rn.9725   | NM_012908    | Faslg  | Fas ligand (TNF superfamily, member 6)                                  |
| B08      | Rn.44439  | NM_012951    | Fgf10  | Fibroblast growth factor 10   |
| B09      | Rn.44228  | NM_019216    | Gdf15  | Growth differentiation factor 15  |
| B10      | Rn.127822 | XM_001066344 | Gdf5   | Growth differentiation factor 5   |
| B11      | Rn.42874  | NM_021672    | Gdf9   | Growth differentiation factor 9   |
| B12      | Rn.42929  | NM_019282    | Grem1  | Gremlin 1, cysteine knot superfamily, homolog (Xenopus laevis)          |
| C01      | Rn.196548 | NM_001014786 | Ifna1  | Interferon-alpha 1  |
| C02      | N/A       | XM_233152    | Ifna2  | Interferon alpha family, gene 2   |
| C03      | Rn.218577 | NM_001106667 | Ifna4  | Interferon, alpha 4   |
| C04      | Rn.138105 | NM_019127    | Ifnb1  | Interferon beta 1, fibroblast   |
| C05      | Rn.10795  | NM_138880    | Ifng   | Interferon gamma  |
| C06      | Rn.9868   | NM_012854    | Il10   | Interleukin 10  |
| C07      | Rn.198483 | NM_133519    | Il11   | Interleukin 11  |
| C08      | Rn.207199 | NM_053390    | Il12a  | Interleukin 12a   |
| C09      | Rn.48686  | NM_022611    | Il12b  | Interleukin 12b   |
| C10      | Rn.9921   | NM_053828    | Il13   | Interleukin 13  |
| C11      | Rn.2490   | NM_013129    | Il15   | Interleukin 15  |
| C12      | Rn.104665 | NM_001105749 | Il16   | Interleukin 16  |
| D01      | Rn.218513 | NM_001106897 | Il17a  | Interleukin 17A   |
| D02      | Rn.50003  | NM_053789    | Il17b  | Interleukin 17B   |
| D03      | Rn.34022  | NM_001015011 | Il17f  | Interleukin 17F   |
| D04      | Rn.11118  | NM_019165    | Il18   | Interleukin 18  |
| D05      | Rn.12300  | NM_017019    | Il1a   | Interleukin 1 alpha   |
| D06      | Rn.9869   | NM_031512    | Il1b   | Interleukin 1 beta  |
| D07      | Rn.162640 | NM_022194    | Il1rn  | Interleukin 1 receptor antagonist                                       |
| D08      | Rn.9871   | NM_053836    | Il2    | Interleukin 2   |
| D09      | Rn.222008 | NM_001143881 | Il20   | Interleukin 20  |
| D10      | Rn.214949 | NM_001108943 | Il21   | Interleukin 21  |
| D11      | Rn.195879 | XM_576228    | Il22   | Interleukin 22  |
| D12      | Rn.81073  | NM_130410    | Il23a  | Interleukin 23, alpha subunit p19                                       |
| E01      | Rn.48710  | NM_133311    | Il24   | Interleukin 24  |
| E02      | N/A       | XM_344962    | Il27   | Interleukin 27  |
| E03      | Rn.10652  | NM_031513    | Il3    | Interleukin 3   |
| E04      | Rn.106849 | NM_001014166 | Il33   | Interleukin 33  |
| E05      | Rn.108255 | NM_201270    | Il4    | Interleukin 4   |
| E06      | Rn.44227  | NM_021834    | Il5    | Interleukin 5   |
| E07      | Rn.9873   | NM_012589    | Il6    | Interleukin 6   |
| E08      | Rn.10793  | NM_013110    | Il7    | Interleukin 7   |
| E09      | Rn.92374  | NM_001105747 | Il9    | Interleukin 9   |

| Position | UniGene   | GenBank      | Symbol    | Description  |
|----------|-----------|--------------|-----------|--|
| E10      | Rn.8831   | NM_012590    | Inha      | Inhibin alpha  |
| E11      | Rn.9874   | NM_017128    | Inhba     | Inhibin beta-A   |
| E12      | Rn.44379  | NM_022196    | Lif       | Leukemia inhibitory factor                             |
| F01      | Rn.160577 | NM_080769    | Lta       | Lymphotoxin alpha (TNF superfamily, member 1)          |
| F02      | Rn.203016 | NM_212507    | Ltb       | Lymphotoxin beta (TNF superfamily, member 3)           |
| F03      | Rn.2661   | NM_031051    | Mif       | Macrophage migration inhibitory factor                 |
| F04      | Rn.44460  | NM_019151    | Mstn      | Myostatin  |
| F05      | Rn.203508 | NM_177928    | Nampt     | Nicotinamide phosphoribosyltransferase                 |
| F06      | Rn.218528 | NM_001106394 | Nodal     | Nodal homolog (mouse)                                  |
| F07      | Rn.37438  | NM_031588    | Nrg1      | Neuregulin 1   |
| F08      | Rn.127158 | NM_001006961 | Osm       | Oncostatin M   |
| F09      | Rn.30648  | NM_001013180 | Scgb3a1   | Secretoglobin, family 3A, member 1                     |
| F10      | Rn.8871   | NM_012881    | Spp1      | Secreted phosphoprotein 1                              |
| F11      | Rn.40136  | NM_021578    | Tgfb1     | Transforming growth factor, beta 1                     |
| F12      | Rn.24539  | NM_031131    | Tgfb2     | Transforming growth factor, beta 2                     |
| G01      | Rn.10576  | NM_031133    | Thpo      | Thrombopoietin   |
| G02      | Rn.2275   | NM_012675    | Tnf       | Tumor necrosis factor (TNF superfamily, member 2)      |
| G03      | Rn.202973 | NM_012870    | Tnfrsf11b | Tumor necrosis factor receptor superfamily, member 11b |
| G04      | Rn.83627  | NM_145681    | Tnfsf10   | Tumor necrosis factor (ligand) superfamily, member 10  |
| G05      | Rn.64517  | NM_057149    | Tnfsf11   | Tumor necrosis factor (ligand) superfamily, member 11  |
| G06      | Rn.3211   | NM_001001513 | Tnfsf12   | Tumor necrosis factor ligand superfamily member 12     |
| G07      | Rn.19955  | NM_001009623 | Tnfsf13   | Tumor necrosis factor (ligand) superfamily, member 13  |
| G08      | Rn.84873  | NM_145765    | Tnfsf15   | Tumor necrosis factor (ligand) superfamily, member 15  |
| G09      | N/A       | XM_344166    | Tnfsf18   | Tumor necrosis factor (ligand) superfamily, member 18  |
| G10      | Rn.30043  | NM_053552    | Tnfsf4    | Tumor necrosis factor (ligand) superfamily, member 4   |
| G11      | Rn.185237 | NM_181384    | Tnfsf9    | Tumor necrosis factor (ligand) superfamily, member 9   |
| G12      | Rn.1923   | NM_031836    | Vegfa     | Vascular endothelial growth factor A                   |
| 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, 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.

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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