

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

## Human Housekeeping Genes

Cat. no. 330231 PAHS-000ZR

### 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 Human Housekeeping Genes RT<sup>2</sup> Profiler PCR Array profiles the expression of eight (8) identical sets of twelve (12) commonly used housekeeping genes. This array can be easily used to identify genes with a constant level of expression among your different experimental conditions for use in normalizing your relative gene expression profiling experiment. Housekeeping genes encode proteins that are usually essential for the maintenance of cellular function. Their expression often, but not always, remains constant under most experimental conditions. Some of these genes may be regulated under certain circumstances and may vary with cell type. Using real-time PCR, you can easily and reliably evaluate the expression of these housekeeping genes among your different experiment conditions 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      | Hs.520640 | NM_001101 | ACTB     | Actin, beta  |
| A02      | Hs.534255 | NM_004048 | B2M      | Beta-2-microglobulin   |
| A03      | Hs.592355 | NM_002046 | GAPDH    | Glyceraldehyde-3-phosphate dehydrogenase                     |
| A04      | Hs.255230 | NM_000181 | GUSB     | Glucuronidase, beta  |
| A05      | Hs.412707 | NM_000194 | HPRT1    | Hypoxanthine phosphoribosyltransferase 1                     |
| A06      | Hs.509736 | NM_007355 | HSP90AB1 | Heat shock protein 90kDa alpha (cytosolic), class B member 1 |
| A07      | Hs.2795   | NM_005566 | LDHA     | Lactate dehydrogenase A                                      |
| A08      | Hs.533282 | NM_007363 | NONO     | Non-POU domain containing, octamer-binding                   |
| A09      | Hs.78771  | NM_000291 | PGK1     | Phosphoglycerate kinase 1                                    |
| A10      | Hs.256639 | NM_006347 | PP1H     | Peptidylprolyl isomerase H (cyclophilin H)                   |
| A11      | Hs.546285 | NM_001002 | RPLP0    | Ribosomal protein, large, P0                                 |
| A12      | Hs.529618 | NM_003234 | TFRC     | Transferrin receptor (p90, CD71)                             |
| B01      | Hs.520640 | NM_001101 | ACTB     | Actin, beta  |
| B02      | Hs.534255 | NM_004048 | B2M      | Beta-2-microglobulin   |
| B03      | Hs.592355 | NM_002046 | GAPDH    | Glyceraldehyde-3-phosphate dehydrogenase                     |
| B04      | Hs.255230 | NM_000181 | GUSB     | Glucuronidase, beta  |
| B05      | Hs.412707 | NM_000194 | HPRT1    | Hypoxanthine phosphoribosyltransferase 1                     |
| B06      | Hs.509736 | NM_007355 | HSP90AB1 | Heat shock protein 90kDa alpha (cytosolic), class B member 1 |
| B07      | Hs.2795   | NM_005566 | LDHA     | Lactate dehydrogenase A                                      |
| B08      | Hs.533282 | NM_007363 | NONO     | Non-POU domain containing, octamer-binding                   |
| B09      | Hs.78771  | NM_000291 | PGK1     | Phosphoglycerate kinase 1                                    |
| B10      | Hs.256639 | NM_006347 | PP1H     | Peptidylprolyl isomerase H (cyclophilin H)                   |
| B11      | Hs.546285 | NM_001002 | RPLP0    | Ribosomal protein, large, P0                                 |
| B12      | Hs.529618 | NM_003234 | TFRC     | Transferrin receptor (p90, CD71)                             |
| C01      | Hs.520640 | NM_001101 | ACTB     | Actin, beta  |
| C02      | Hs.534255 | NM_004048 | B2M      | Beta-2-microglobulin   |
| C03      | Hs.592355 | NM_002046 | GAPDH    | Glyceraldehyde-3-phosphate dehydrogenase                     |
| C04      | Hs.255230 | NM_000181 | GUSB     | Glucuronidase, beta  |
| C05      | Hs.412707 | NM_000194 | HPRT1    | Hypoxanthine phosphoribosyltransferase 1                     |
| C06      | Hs.509736 | NM_007355 | HSP90AB1 | Heat shock protein 90kDa alpha (cytosolic), class B member 1 |
| C07      | Hs.2795   | NM_005566 | LDHA     | Lactate dehydrogenase A                                      |
| C08      | Hs.533282 | NM_007363 | NONO     | Non-POU domain containing, octamer-binding                   |
| C09      | Hs.78771  | NM_000291 | PGK1     | Phosphoglycerate kinase 1                                    |
| C10      | Hs.256639 | NM_006347 | PP1H     | Peptidylprolyl isomerase H (cyclophilin H)                   |
| C11      | Hs.546285 | NM_001002 | RPLP0    | Ribosomal protein, large, P0                                 |
| C12      | Hs.529618 | NM_003234 | TFRC     | Transferrin receptor (p90, CD71)                             |
| D01      | Hs.520640 | NM_001101 | ACTB     | Actin, beta  |
| D02      | Hs.534255 | NM_004048 | B2M      | Beta-2-microglobulin   |
| D03      | Hs.592355 | NM_002046 | GAPDH    | Glyceraldehyde-3-phosphate dehydrogenase                     |
| D04      | Hs.255230 | NM_000181 | GUSB     | Glucuronidase, beta  |
| D05      | Hs.412707 | NM_000194 | HPRT1    | Hypoxanthine phosphoribosyltransferase 1                     |
| D06      | Hs.509736 | NM_007355 | HSP90AB1 | Heat shock protein 90kDa alpha (cytosolic), class B member 1 |
| D07      | Hs.2795   | NM_005566 | LDHA     | Lactate dehydrogenase A                                      |
| D08      | Hs.533282 | NM_007363 | NONO     | Non-POU domain containing, octamer-binding                   |
| D09      | Hs.78771  | NM_000291 | PGK1     | Phosphoglycerate kinase 1                                    |
| D10      | Hs.256639 | NM_006347 | PP1H     | Peptidylprolyl isomerase H (cyclophilin H)                   |
| D11      | Hs.546285 | NM_001002 | RPLP0    | Ribosomal protein, large, P0                                 |
| D12      | Hs.529618 | NM_003234 | TFRC     | Transferrin receptor (p90, CD71)                             |
| E01      | Hs.520640 | NM_001101 | ACTB     | Actin, beta  |
| E02      | Hs.534255 | NM_004048 | B2M      | Beta-2-microglobulin   |
| E03      | Hs.592355 | NM_002046 | GAPDH    | Glyceraldehyde-3-phosphate dehydrogenase                     |
| E04      | Hs.255230 | NM_000181 | GUSB     | Glucuronidase, beta  |
| E05      | Hs.412707 | NM_000194 | HPRT1    | Hypoxanthine phosphoribosyltransferase 1                     |
| E06      | Hs.509736 | NM_007355 | HSP90AB1 | Heat shock protein 90kDa alpha (cytosolic), class B member 1 |
| E07      | Hs.2795   | NM_005566 | LDHA     | Lactate dehydrogenase A                                      |
| E08      | Hs.533282 | NM_007363 | NONO     | Non-POU domain containing, octamer-binding                   |
| E09      | Hs.78771  | NM_000291 | PGK1     | Phosphoglycerate kinase 1                                    |

| Position | UniGene   | GenBank   | Symbol   | Description  |
|----------|-----------|-----------|----------|--|
| E10      | Hs.256639 | NM_006347 | PPIH     | Peptidylprolyl isomerase H (cyclophilin H)                   |
| E11      | Hs.546285 | NM_001002 | RPLP0    | Ribosomal protein, large, P0                                 |
| E12      | Hs.529618 | NM_003234 | TFRC     | Transferrin receptor (p90, CD71)                             |
| F01      | Hs.520640 | NM_001101 | ACTB     | Actin, beta  |
| F02      | Hs.534255 | NM_004048 | B2M      | Beta-2-microglobulin   |
| F03      | Hs.592355 | NM_002046 | GAPDH    | Glyceraldehyde-3-phosphate dehydrogenase                     |
| F04      | Hs.255230 | NM_000181 | GUSB     | Glucuronidase, beta  |
| F05      | Hs.412707 | NM_000194 | HPRT1    | Hypoxanthine phosphoribosyltransferase 1                     |
| F06      | Hs.509736 | NM_007355 | HSP90AB1 | Heat shock protein 90kDa alpha (cytosolic), class B member 1 |
| F07      | Hs.2795   | NM_005566 | LDHA     | Lactate dehydrogenase A                                      |
| F08      | Hs.533282 | NM_007363 | NONO     | Non-POU domain containing, octamer-binding                   |
| F09      | Hs.78771  | NM_000291 | PGK1     | Phosphoglycerate kinase 1                                    |
| F10      | Hs.256639 | NM_006347 | PPIH     | Peptidylprolyl isomerase H (cyclophilin H)                   |
| F11      | Hs.546285 | NM_001002 | RPLP0    | Ribosomal protein, large, P0                                 |
| F12      | Hs.529618 | NM_003234 | TFRC     | Transferrin receptor (p90, CD71)                             |
| G01      | Hs.520640 | NM_001101 | ACTB     | Actin, beta  |
| G02      | Hs.534255 | NM_004048 | B2M      | Beta-2-microglobulin   |
| G03      | Hs.592355 | NM_002046 | GAPDH    | Glyceraldehyde-3-phosphate dehydrogenase                     |
| G04      | Hs.255230 | NM_000181 | GUSB     | Glucuronidase, beta  |
| G05      | Hs.412707 | NM_000194 | HPRT1    | Hypoxanthine phosphoribosyltransferase 1                     |
| G06      | Hs.509736 | NM_007355 | HSP90AB1 | Heat shock protein 90kDa alpha (cytosolic), class B member 1 |
| G07      | Hs.2795   | NM_005566 | LDHA     | Lactate dehydrogenase A                                      |
| G08      | Hs.533282 | NM_007363 | NONO     | Non-POU domain containing, octamer-binding                   |
| G09      | Hs.78771  | NM_000291 | PGK1     | Phosphoglycerate kinase 1                                    |
| G10      | Hs.256639 | NM_006347 | PPIH     | Peptidylprolyl isomerase H (cyclophilin H)                   |
| G11      | Hs.546285 | NM_001002 | RPLP0    | Ribosomal protein, large, P0                                 |
| G12      | Hs.529618 | NM_003234 | TFRC     | Transferrin receptor (p90, CD71)                             |
| H01      | Hs.520640 | NM_001101 | ACTB     | Actin, beta  |
| H02      | Hs.534255 | NM_004048 | B2M      | Beta-2-microglobulin   |
| H03      | Hs.592355 | NM_002046 | GAPDH    | Glyceraldehyde-3-phosphate dehydrogenase                     |
| H04      | Hs.255230 | NM_000181 | GUSB     | Glucuronidase, beta  |
| H05      | Hs.412707 | NM_000194 | HPRT1    | Hypoxanthine phosphoribosyltransferase 1                     |
| H06      | Hs.509736 | NM_007355 | HSP90AB1 | Heat shock protein 90kDa alpha (cytosolic), class B member 1 |
| H07      | Hs.2795   | NM_005566 | LDHA     | Lactate dehydrogenase A                                      |
| H08      | Hs.533282 | NM_007363 | NONO     | Non-POU domain containing, octamer-binding                   |
| H09      | Hs.78771  | NM_000291 | PGK1     | Phosphoglycerate kinase 1                                    |
| H10      | Hs.256639 | NM_006347 | PPIH     | Peptidylprolyl isomerase H (cyclophilin H)                   |
| H11      | Hs.546285 | NM_001002 | RPLP0    | Ribosomal protein, large, P0                                 |
| H12      | Hs.529618 | NM_003234 | TFRC     | Transferrin receptor (p90, CD71)                             |

## 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.

Trademarks: QIAGEN<sup>®</sup>, Rotor-Gene<sup>®</sup>, Rotor-Disc<sup>™</sup> (QIAGEN Group); ROX<sup>™</sup> (Applera Corporation or its subsidiaries); SYBR<sup>®</sup> (Molecular Probes, Inc.).

1067688 03/2011 © 2011 QIAGEN, all rights reserved.

[www.qiagen.com](http://www.qiagen.com)

Australia ■ 1-800-243-800

Austria ■ 0800/281010

Belgium ■ 0800-79612

Brazil ■ 0800-557779

Canada ■ 800-572-9613

China ■ 8621-3865-3865

Denmark ■ 80-885945

Finland ■ 0800-914416

France ■ 01-60-920-930

Germany ■ 02103-29-12000

Hong Kong ■ 800 933 965

Ireland ■ 1800 555 049

Italy ■ 800-787980

Japan ■ 03-6890-7300

Korea (South) ■ 080-000-7145

Luxembourg ■ 8002 2076

Mexico ■ 01-800-7742-436

The Netherlands ■ 0800 0229592

Norway ■ 800-18859

Singapore ■ 1800-742-4368

Spain ■ 91-630-7050

Sweden ■ 020-790282

Switzerland ■ 055-254-22-11

UK ■ 01293-422-911

USA ■ 800-426-8157



Sample & Assay Technologies