# RT² Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

# Human Inflammatory Cytokines & Receptors

### Cat. no. 330231 PAHS-011ZA

### For pathway expression analysis

| Format | For use with the following real-time cyclers |
|---|---|
| RT² 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 |
| RT² Profiler PCR Array, Format C | Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block) |
| RT² Profiler PCR Array, Format D | Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000® |
| RT² Profiler PCR Array, Format E | Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™ |
| RT² Profiler PCR Array, Format F | Roche® LightCycler® 480 (96-well block) |
| RT² Profiler PCR Array, Format G | Roche LightCycler 480 (384-well block) |
| RT² Profiler PCR Array, Format H | Fluidigm® BioMark™ |

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## Description

The Human Inflammatory Cytokines & Receptors RT² 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 *RT² Profiler PCR Array Handbook*.

## Shipping and storage

RT² 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. RT² 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 RT² 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 (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT² Profiler PCR Array Handbook* for layout.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | AIMP1 | BMP2 | C5 | CCL1 | CCL11 | CCL13 | CCL15 | CCL16 | CCL17 | CCL2 | CCL20 | CCL22 |
| B | CCL23 | CCL24 | CCL26 | CCL3 | CCL4 | CCL5 | CCL7 | CCL8 | CCR1 | CCR2 | CCR3 | CCR4 |
| C | CCR5 | CCR6 | CCR8 | CD40LG | CSF1 | CSF2 | CSF3 | CX3CL1 | CX3CR1 | CXCL1 | CXCL10 | CXCL11 |
| D | CXCL12 | CXCL13 | CXCL2 | CXCL3 | CXCL5 | CXCL6 | CXCL9 | CXCR1 | CXCR2 | FASLG | IFNA2 | IFNG |
| E | IL10RA | IL10RB | IL13 | IL15 | IL16 | IL17A | IL17C | IL17F | IL1A | IL1B | IL1R1 | IL1RN |
| F | IL21 | IL27 | IL3 | IL33 | IL5 | IL5RA | IL7 | IL8 | IL9 | IL9R | LTA | LTB |
| G | MIF | NAMPT | OSM | SPP1 | TNF | TNFRSF11B | TNFSF10 | TNFSF11 | TNFSF13 | TNFSF13B | TNFSF4 | VEGFA |
| H | ACTB | B2M | GAPDH | HPRT1 | RPLP0 | HGDC | RTC | RTC | RTC | PPC | PPC | PPC |

## Gene table: RT² Profiler PCR Array

| Position | UniGene | GenBank | Symbol | Description |
|---|---|---|---|---|
| A01 | Hs.591680 | NM_004757 | AIMP1 | Aminoacyl tRNA synthetase complex-interacting multifunctional protein 1 |
| A02 | Hs.73853 | NM_001200 | BMP2 | Bone morphogenetic protein 2 |
| A03 | Hs.494997 | NM_001735 | C5 | Complement component 5 |
| A04 | Hs.72918 | NM_002981 | CCL1 | Chemokine (C-C motif) ligand 1 |
| A05 | Hs.54460 | NM_002986 | CCL11 | Chemokine (C-C motif) ligand 11 |
| A06 | Hs.414629 | NM_005408 | CCL13 | Chemokine (C-C motif) ligand 13 |
| A07 | Hs.272493 | NM_032965 | CCL15 | Chemokine (C-C motif) ligand 15 |
| A08 | Hs.10458 | NM_004590 | CCL16 | Chemokine (C-C motif) ligand 16 |
| A09 | Hs.546294 | NM_002987 | CCL17 | Chemokine (C-C motif) ligand 17 |
| A10 | Hs.303649 | NM_002982 | CCL2 | Chemokine (C-C motif) ligand 2 |
| A11 | Hs.75498 | NM_004591 | CCL20 | Chemokine (C-C motif) ligand 20 |
| A12 | Hs.534347 | NM_002990 | CCL22 | Chemokine (C-C motif) ligand 22 |
| B01 | Hs.169191 | NM_005064 | CCL23 | Chemokine (C-C motif) ligand 23 |
| B02 | Hs.247838 | NM_002991 | CCL24 | Chemokine (C-C motif) ligand 24 |
| B03 | Hs.131342 | NM_006072 | CCL26 | Chemokine (C-C motif) ligand 26 |
| B04 | Hs.514107 | NM_002983 | CCL3 | Chemokine (C-C motif) ligand 3 |
| B05 | Hs.75703 | NM_002984 | CCL4 | Chemokine (C-C motif) ligand 4 |
| B06 | Hs.514821 | NM_002985 | CCL5 | Chemokine (C-C motif) ligand 5 |
| B07 | Hs.251526 | NM_006273 | CCL7 | Chemokine (C-C motif) ligand 7 |
| B08 | Hs.271387 | NM_005623 | CCL8 | Chemokine (C-C motif) ligand 8 |
| B09 | Hs.301921 | NM_001295 | CCR1 | Chemokine (C-C motif) receptor 1 |
| B10 | Hs.511794 | NM_001123396 | CCR2 | Chemokine (C-C motif) receptor 2 |
| B11 | Hs.506190 | NM_001837 | CCR3 | Chemokine (C-C motif) receptor 3 |
| B12 | Hs.184926 | NM_005508 | CCR4 | Chemokine (C-C motif) receptor 4 |
| C01 | Hs.450802 | NM_000579 | CCR5 | Chemokine (C-C motif) receptor 5 |
| C02 | Hs.46468 | NM_004367 | CCR6 | Chemokine (C-C motif) receptor 6 |
| C03 | Hs.113222 | NM_005201 | CCR8 | Chemokine (C-C motif) receptor 8 |
| C04 | Hs.592244 | NM_000074 | CD40LG | CD40 ligand |
| C05 | Hs.591402 | NM_000757 | CSF1 | Colony stimulating factor 1 (macrophage) |
| C06 | Hs.1349 | NM_000758 | CSF2 | Colony stimulating factor 2 (granulocyte-macrophage) |
| C07 | Hs.2233 | NM_000759 | CSF3 | Colony stimulating factor 3 (granulocyte) |
| C08 | Hs.531668 | NM_002996 | CX3CL1 | Chemokine (C-X3-C motif) ligand 1 |
| C09 | Hs.78913 | NM_001337 | CX3CR1 | Chemokine (C-X3-C motif) receptor 1 |
| C10 | Hs.789 | NM_001511 | CXCL1 | Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha) |
| C11 | Hs.632586 | NM_001565 | CXCL10 | Chemokine (C-X-C motif) ligand 10 |
| C12 | Hs.632592 | NM_005409 | CXCL11 | Chemokine (C-X-C motif) ligand 11 |
| D01 | Hs.522891 | NM_000609 | CXCL12 | Chemokine (C-X-C motif) ligand 12 |
| D02 | Hs.100431 | NM_006419 | CXCL13 | Chemokine (C-X-C motif) ligand 13 |
| D03 | Hs.590921 | NM_002089 | CXCL2 | Chemokine (C-X-C motif) ligand 2 |
| D04 | Hs.89690 | NM_002090 | CXCL3 | Chemokine (C-X-C motif) ligand 3 |
| D05 | Hs.89714 | NM_002994 | CXCL5 | Chemokine (C-X-C motif) ligand 5 |
| D06 | Hs.164021 | NM_002993 | CXCL6 | Chemokine (C-X-C motif) ligand 6 (granulocyte chemotactic protein 2) |
| D07 | Hs.77367 | NM_002416 | CXCL9 | Chemokine (C-X-C motif) ligand 9 |
| D08 | Hs.194778 | NM_000634 | CXCR1 | Chemokine (C-X-C motif) receptor 1 |
| D09 | Hs.846 | NM_001557 | CXCR2 | Chemokine (C-X-C motif) receptor 2 |

| Position | UniGene | GenBank | Symbol | Description |
|---|---|---|---|---|
| D10 | Hs.2007 | NM_000639 | FASLG | Fas ligand (TNF superfamily, member 6) |
| D11 | Hs.211575 | NM_000605 | IFNA2 | Interferon, alpha 2 |
| D12 | Hs.856 | NM_000619 | IFNG | Interferon, gamma |
| E01 | Hs.504035 | NM_001558 | IL10RA | Interleukin 10 receptor, alpha |
| E02 | Hs.654593 | NM_000628 | IL10RB | Interleukin 10 receptor, beta |
| E03 | Hs.845 | NM_002188 | IL13 | Interleukin 13 |
| E04 | Hs.654378 | NM_000585 | IL15 | Interleukin 15 |
| E05 | Hs.459095 | NM_004513 | IL16 | Interleukin 16 |
| E06 | Hs.41724 | NM_002190 | IL17A | Interleukin 17A |
| E07 | Hs.278911 | NM_013278 | IL17C | Interleukin 17C |
| E08 | Hs.272295 | NM_052872 | IL17F | Interleukin 17F |
| E09 | Hs.1722 | NM_000575 | IL1A | Interleukin 1, alpha |
| E10 | Hs.126256 | NM_000576 | IL1B | Interleukin 1, beta |
| E11 | Hs.701982 | NM_000877 | IL1R1 | Interleukin 1 receptor, type I |
| E12 | Hs.81134 | NM_000577 | IL1RN | Interleukin 1 receptor antagonist |
| F01 | Hs.567559 | NM_021803 | IL21 | Interleukin 21 |
| F02 | Hs.528111 | NM_145659 | IL27 | Interleukin 27 |
| F03 | Hs.694 | NM_000588 | IL3 | Interleukin 3 (colony-stimulating factor, multiple) |
| F04 | Hs.348390 | NM_033439 | IL33 | Interleukin 33 |
| F05 | Hs.2247 | NM_000879 | IL5 | Interleukin 5 (colony-stimulating factor, eosinophil) |
| F06 | Hs.68876 | NM_000564 | IL5RA | Interleukin 5 receptor, alpha |
| F07 | Hs.591873 | NM_000880 | IL7 | Interleukin 7 |
| F08 | Hs.624 | NM_000584 | IL8 | Interleukin 8 |
| F09 | Hs.960 | NM_000590 | IL9 | Interleukin 9 |
| F10 | Hs.406228 | NM_002186 | IL9R | Interleukin 9 receptor |
| F11 | Hs.36 | NM_000595 | LTA | Lymphotoxin alpha (TNF superfamily, member 1) |
| F12 | Hs.376208 | NM_002341 | LTB | Lymphotoxin beta (TNF superfamily, member 3) |
| G01 | Hs.407995 | NM_002415 | MIF | Macrophage migration inhibitory factor (glycosylation-inhibiting factor) |
| G02 | Hs.489615 | NM_005746 | NAMPT | Nicotinamide phosphoribosyltransferase |
| G03 | Hs.248156 | NM_020530 | OSM | Oncostatin M |
| G04 | Hs.313 | NM_000582 | SPP1 | Secreted phosphoprotein 1 |
| G05 | Hs.241570 | NM_000594 | TNF | Tumor necrosis factor |
| G06 | Hs.81791 | NM_002546 | TNFRSF11B | Tumor necrosis factor receptor superfamily, member 11b |
| G07 | Hs.478275 | NM_003810 | TNFSF10 | Tumor necrosis factor (ligand) superfamily, member 10 |
| G08 | Hs.333791 | NM_003701 | TNFSF11 | Tumor necrosis factor (ligand) superfamily, member 11 |
| G09 | Hs.54673 | NM_003808 | TNFSF13 | Tumor necrosis factor (ligand) superfamily, member 13 |
| G10 | Hs.525157 | NM_006573 | TNFSF13B | Tumor necrosis factor (ligand) superfamily, member 13b |
| G11 | Hs.181097 | NM_003326 | TNFSF4 | Tumor necrosis factor (ligand) superfamily, member 4 |
| G12 | Hs.73793 | NM_003376 | VEGFA | Vascular endothelial growth factor A |
| 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.412707 | NM_000194 | HPRT1 | Hypoxanthine phosphoribosyltransferase 1 |
| H05 | Hs.546285 | NM_001002 | RPLP0 | Ribosomal protein, large, P0 |
| H06 | N/A | SA_00105 | HGDC | Human 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, RT² Profiler PCR Arrays should be used together with the RT² First Strand Kit for cDNA synthesis and RT2 SYBR® Green qPCR Mastermixes for PCR.

| Product | Contents | Cat. no. |
|---|---|---|
| RT² First Strand Kit (12) | Enzymes and reagents for cDNA synthesis | 330401 |
| RT² 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 |
| RT² SYBR Green ROX™ 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 |
| RT² 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.

RT² 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 or can be requested from QIAGEN Technical Services or your local distributor.



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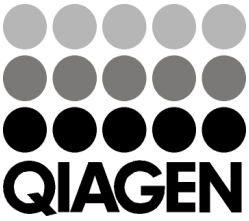


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