

# RT<sup>2</sup> Profiler PCR Array (96-Well Format and 384-Well [4 x 96] Format)

## Chicken Innate & Adaptive Immune Responses

Cat. no. 330231 PAGG-052ZA

For pathway expression analysis

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



Sample & Assay Technologies

## Description

The Chicken Innate & Adaptive Immune Responses RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 genes involved in the host response to bacterial infection and sepsis. This array includes genes related to the IL-1R and Toll-like Receptor (TLR) Signaling Pathways including IL-1R and TLR genes involved in the detection of pathogens. Genes related to the host defense to bacteria are represented on this array including genes involved in the detection of bacteria and genes involved in the acute-phase response, complement activation, the inflammatory response, and the antibacterial humoral response. Genes involved in the innate immune response and septic shock are also included on this array. Using real-time PCR, research studies can easily and reliably analyze expression of a focused panel of genes related to the innate and adaptive immune responses 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 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. RT<sup>2</sup> 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 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.

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## Array layout (96-well)

For 384-well 4 x 96 PCR arrays, genes are present in a staggered format. Refer to the *RT<sup>2</sup> Profiler PCR Array Handbook* for layout.

|   | 1     | 2     | 3      | 4            | 5            | 6         | 7     | 8      | 9     | 10     | 11      | 12    |
|---|-------|-------|--------|--------------|--------------|-----------|-------|--------|-------|--------|---------|-------|
| A | C3    | CSAR1 | CAMP   | CASP1        | CASP8        | CCL4      | CCL5  | CCR4   | CCR5  | CCR6   | CCR8    | CD14  |
| B | CD28  | CD4   | CD40   | CD40LG       | CD80         | CD86      | CD8A  | CRP    | CSF2  | CXCL12 | CXCR4   | FAS   |
| C | FASLG | GATA3 | IFIH1  | IFNA3        | IFNAR1       | IFNB      | IFNG  | IFNGR1 | IL10  | IL13   | IL15    | IL18  |
| D | IL18  | IL1R1 | IL2    | IL4          | IL5          | IL6       | IL8   | IRAK4  | IRF1  | IRF6   | IRF7    | ITGB2 |
| E | JAK2  | JUN   | LITAF  | LOC100859040 | LOC100859196 | LOC430113 | LTF   | LY96   | LYZ   | MAPK1  | MAPK14  | MAPK8 |
| F | MBL2  | MPO   | MX1    | MYD88        | NFKB1        | NFKBIA    | NLRP3 | NOD1   | PTGS2 | RAG1   | SLC11A1 | STAT1 |
| G | STAT3 | STAT4 | TICAM1 | TLR15        | TLR21        | TLR2-2    | TLR3  | TLR4   | TLR5  | TLR6   | TLR7    | TRAF6 |
| H | ACTB  | H6PD  | HMBS   | RPL4         | UBC          | GGDC      | RTC   | RTC    | RTC   | PPC    | PPC     | PPC   |

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

| Position | UniGene   | GenBank      | Symbol | Description                                                                       |
|----------|-----------|--------------|--------|-----------------------------------------------------------------------------------|
| A01      | Gga.2510  | NM_205405    | C3     | Complement component 3                                                            |
| A02      | N/A       | XM_428039    | C5AR1  | Complement component 5a receptor 1                                                |
| A03      | Gga.28679 | NM_001024830 | CAMP   | Cathelicidin antimicrobial peptide                                                |
| A04      | Gga.10204 | NM_204924    | CASP1  | Caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase) |
| A05      | Gga.2451  | NM_204592    | CASP8  | Caspase 8, apoptosis-related cysteine peptidase                                   |
| A06      | Gga.255   | NM_204720    | CCL4   | Chemokine (C-C motif) ligand 4                                                    |
| A07      | Gga.9563  | NM_001045832 | CCL5   | Chemokine (C-C motif) ligand 5                                                    |
| A08      | N/A       | XM_426017    | CCR4   | Chemokine (C-C motif) receptor 4                                                  |
| A09      | Gga.32299 | NM_001045834 | CCR5   | Chemokine (C-C motif) receptor 5                                                  |
| A10      | Gga.25254 | NM_001114081 | CCR6   | Chemokine (C-C motif) receptor 6                                                  |
| A11      | Gga.8983  | NM_001030991 | CCR8   | Chemokine (C-C motif) receptor 8                                                  |
| A12      | Gga.47479 | NM_001139478 | CD14   | CD14 molecule                                                                     |
| B01      | Gga.723   | NM_205311    | CD28   | CD28 molecule                                                                     |
| B02      | Gga.173   | NM_204649    | CD4    | CD4 molecule                                                                      |
| B03      | Gga.197   | NM_204665    | CD40   | CD40 molecule, TNF receptor superfamily member 5                                  |
| B04      | Gga.3027  | NM_204733    | CD40LG | CD40 ligand (TNF superfamily, member 5, hyper-IgM syndrome)                       |
| B05      | Gga.22815 | NM_001079739 | CD80   | CD80 molecule                                                                     |
| B06      | Gga.32582 | NM_001037839 | CD86   | CD86 molecule                                                                     |
| B07      | Gga.575   | NM_205235    | CD8A   | CD8a molecule                                                                     |
| B08      | Gga.33713 | NM_001039564 | CRP    | C-reactive protein, pentraxin-related                                             |
| B09      | Gga.47564 | NM_001007078 | CSF2   | Granulocyte-macrophage colony-stimulating factor                                  |
| B10      | Gga.9513  | NM_204510    | CXCL12 | Chemokine (C-X-C motif) ligand 12 (stromal cell-derived factor 1)                 |
| B11      | Gga.2305  | NM_204617    | CXCR4  | Chemokine (C-X-C motif) receptor 4                                                |
| B12      | Gga.100   | NM_001199487 | FAS    | Fas (TNF receptor superfamily, member 6)                                          |
| C01      | Gga.29896 | NM_001031559 | FASLG  | Fas ligand (TNF superfamily, member 6)                                            |
| C02      | Gga.744   | NM_001008444 | GATA3  | GATA binding protein 3                                                            |
| C03      | Gga.16457 | NM_001193638 | IFIH1  | Interferon induced with helicase C domain 1                                       |
| C04      | Gga.801   | NM_205427    | IFNA3  | Interferon                                                                        |
| C05      | Gga.4185  | NM_204859    | IFNAR1 | Interferon (alpha, beta and omega) receptor 1                                     |
| C06      | Gga.22865 | NM_001024836 | IFNB   | Interferon beta                                                                   |
| C07      | Gga.47882 | NM_205149    | IFNG   | Interferon, gamma                                                                 |
| C08      | Gga.47585 | NM_001130387 | IFNGR1 | Interferon gamma receptor 1                                                       |
| C09      | Gga.46641 | NM_001004414 | IL10   | Interleukin 10                                                                    |
| C10      | Gga.22885 | NM_001007085 | IL13   | Interleukin 13                                                                    |
| C11      | Gga.42186 | NM_204571    | IL15   | Interleukin 15                                                                    |
| C12      | Gga.42408 | NM_204608    | IL18   | Interleukin 18 (interferon-gamma-inducing factor)                                 |
| D01      | Gga.19    | NM_204524    | IL1B   | Interleukin 1, beta                                                               |
| D02      | Gga.846   | NM_205485    | IL1R1  | Interleukin 1 receptor, type I                                                    |
| D03      | Gga.4946  | NM_204153    | IL2    | Interleukin 2                                                                     |
| D04      | Gga.47945 | NM_001007079 | IL4    | Interleukin 4                                                                     |
| D05      | Gga.22886 | NM_001007084 | IL5    | Interleukin 5                                                                     |
| D06      | Gga.2769  | NM_204628    | IL6    | Interleukin 6 (interferon, beta 2)                                                |
| D07      | Gga.512   | NM_205018    | IL8    | Interleukin 8                                                                     |

| Position | UniGene   | GenBank      | Symbol       | Description                                                                           |
|----------|-----------|--------------|--------------|---------------------------------------------------------------------------------------|
| D08      | Gga.22347 | NM_001030738 | IRAK4        | Interleukin-1 receptor-associated kinase 4                                            |
| D09      | Gga.791   | NM_205415    | IRF1         | Interferon regulatory factor 1                                                        |
| D10      | Gga.7980  | XM_417990    | IRF6         | Interferon regulatory factor 6                                                        |
| D11      | Gga.1087  | NM_205372    | IRF7         | Interferon regulatory factor 7                                                        |
| D12      | Gga.4507  | NM_205251    | ITGB2        | Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)                    |
| E01      | Gga.954   | NM_001030538 | JAK2         | Janus kinase 2 (a protein tyrosine kinase)                                            |
| E02      | Gga.1473  | NM_001031289 | JUN          | Jun proto-oncogene                                                                    |
| E03      | Gga.3383  | NM_204267    | LITAF        | Lipopolysaccharide-induced TNF factor                                                 |
| E04      | N/A       | XM_003641945 | LOC100859040 | Interleukin-17C-like                                                                  |
| E05      | N/A       | XM_003643566 | LOC100859196 | Signal transducer and transcription activator 6-like                                  |
| E06      | N/A       | XM_427671    | LOC430113    | Similar to MGC83617 protein                                                           |
| E07      | Gga.47699 | NM_205304    | LTF          | Lactotransferrin                                                                      |
| E08      | Gga.5743  | XM_001232092 | LY96         | Lymphocyte antigen 96                                                                 |
| E09      | Gga.713   | NM_205281    | LYZ          | Lysozyme (renal amyloidosis)                                                          |
| E10      | Gga.2163  | NM_204150    | MAPK1        | Mitogen-activated protein kinase 1                                                    |
| E11      | Gga.22642 | XM_001232615 | MAPK14       | Mitogen-activated protein kinase 14                                                   |
| E12      | Gga.1147  | XM_001233168 | MAPK8        | Mitogen-activated protein kinase 8                                                    |
| F01      | Gga.174   | NM_204349    | MBL2         | Mannose-binding lectin (protein C) 2, soluble                                         |
| F02      | Gga.23215 | XM_415716    | MPO          | Myeloperoxidase                                                                       |
| F03      | Gga.131   | NM_204609    | MX1          | Myxovirus (influenza virus) resistance 1, interferon-inducible protein p78 (mouse)    |
| F04      | Gga.17397 | NM_001030962 | MYD88        | Myeloid differentiation primary response gene (88)                                    |
| F05      | Gga.4408  | NM_205134    | NFKB1        | Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1                  |
| F06      | Gga.41891 | NM_001001472 | NFKBIA       | Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha   |
| F07      | Gga.22808 | XM_001233261 | NLRP3        | NLR family, pyrin domain containing 3                                                 |
| F08      | Gga.40185 | XM_418777    | NOD1         | Nucleotide-binding oligomerization domain containing 1                                |
| F09      | Gga.4401  | NM_001167718 | PTGS2        | Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase) |
| F10      | Gga.32111 | NM_001031188 | RAG1         | Recombination activating gene 1                                                       |
| F11      | Gga.477   | NM_204964    | SLC11A1      | Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1   |
| F12      | Gga.41913 | NM_001012914 | STAT1        | Signal transducer and activator of transcription 1, 91kDa                             |
| G01      | Gga.32114 | NM_001030931 | STAT3        | Signal transducer and activator of transcription 3 (acute-phase response factor)      |
| G02      | Gga.39077 | XM_001231298 | STAT4        | Signal transducer and activator of transcription 4                                    |
| G03      | Gga.12009 | NM_001081506 | TICAM1       | Toll-like receptor adaptor molecule 1                                                 |
| G04      | Gga.26502 | NM_001037835 | TLR15        | Toll-like receptor 15                                                                 |
| G05      | Gga.22171 | NM_001030558 | TLR21        | Toll-like receptor 21                                                                 |
| G06      | Gga.46177 | NM_001161650 | TLR2-2       | Toll-like receptor 2                                                                  |
| G07      | Gga.22930 | NM_001011691 | TLR3         | Toll-like receptor 3                                                                  |
| G08      | Gga.32116 | NM_001030693 | TLR4         | Toll-like receptor 4                                                                  |
| G09      | Gga.3252  | NM_001024586 | TLR5         | Toll-like receptor 5                                                                  |
| G10      | Gga.22623 | NM_001007488 | TLR6         | Toll-like receptor 6                                                                  |
| G11      | Gga.22176 | NM_001011688 | TLR7         | Toll-like receptor 7                                                                  |
| G12      | Gga.31230 | XM_421089    | TRAF6        | TNF receptor-associated factor 6                                                      |
| H01      | Gga.6076  | NM_205518    | ACTB         | Actin, beta                                                                           |
| H02      | Gga.44427 | XM_425746    | H6PD         | Hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase)                            |
| H03      | Gga.8480  | XM_417846    | HMBS         | Hydroxymethylbilane synthase                                                          |
| H04      | Gga.4523  | NM_001007479 | RPL4         | Ribosomal protein L4                                                                  |
| H05      | Gga.39142 | XM_001234599 | UBC          | Ubiquitin C                                                                           |
| H06      | N/A       | SA_00517     | GGDC         | Chicken 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 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   |
| RT <sup>2</sup> SYBR Green ROX <sup>™</sup> 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   |
| RT <sup>2</sup> 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.

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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