

RT² Profiler PCR Array (Rotor-Gene[®] Format)

Rat Innate & Adaptive Immune Responses

Cat. no. 330231 PARN-052ZR

For pathway expression analysis

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

Description

The Rat Innate & Adaptive Immune Responses RT² 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, you 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 *RT² Profiler PCR Array Handbook*.

Shipping and storage

RT² 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 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

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: RT² Profiler PCR Array

| Position | UniGene | GenBank | Symbol | Description |
|----------|-----------|--------------|--------|------------------------------------------------------|
| A01 | Rn.109007 | NM_017170 | ApcS | Amyloid P component, serum |
| A02 | Rn.11378 | NM_016994 | C3 | Complement component 3 |
| A03 | Rn.10680 | NM_053619 | C5ar1 | Complement component 5a receptor 1 |
| A04 | Rn.33146 | NM_001100724 | Camp | Cathelicidin antimicrobial peptide |
| A05 | Rn.37508 | NM_012762 | Casp1 | Caspase 1 |
| A06 | Rn.54474 | NM_022277 | Casp8 | Caspase 8 |
| A07 | Rn.137780 | NM_001105822 | Ccl12 | Chemokine (C-C motif) ligand 12 |
| A08 | Rn.10139 | NM_013025 | Cd3 | Chemokine (C-C motif) ligand 3 |
| A09 | Rn.8019 | NM_031116 | Cd5 | Chemokine (C-C motif) ligand 5 |
| A10 | Rn.81076 | NM_133532 | Ccr4 | Chemokine (C-C motif) receptor 4 |
| A11 | Rn.10736 | NM_053960 | Ccr5 | Chemokine (C-C motif) receptor 5 |
| A12 | Rn.161767 | NM_001013145 | Ccr6 | Chemokine (C-C motif) receptor 6 |
| B01 | N/A | XM_236704 | Ccr8 | Chemokine (C-C motif) receptor 8 |
| B02 | Rn.42942 | NM_021744 | Cd14 | CD14 molecule |
| B03 | Rn.11120 | NM_017079 | Cd1d1 | CD1d1 molecule |
| B04 | Rn.10748 | NM_012705 | Cd4 | Cd4 molecule |
| B05 | Rn.25180 | NM_134360 | Cd40 | CD40 molecule, TNF receptor superfamily member 5 |
| B06 | Rn.44218 | NM_053353 | Cd40lg | CD40 ligand |
| B07 | Rn.10138 | NM_012926 | Cd80 | Cd80 molecule |
| B08 | Rn.6734 | NM_020081 | Cd86 | CD86 molecule |
| B09 | Rn.10306 | NM_031538 | Cd8a | CD8a molecule |
| B10 | Rn.16463 | NM_017096 | Crp | C-reactive protein, pentraxin-related |
| B11 | Rn.44285 | XM_340799 | Csf2 | Colony stimulating factor 2 (granulocyte-macrophage) |
| B12 | Rn.10584 | NM_139089 | Cxcl10 | Chemokine (C-X-C motif) ligand 10 |
| C01 | Rn.24787 | NM_053415 | Cxcr3 | Chemokine (C-X-C motif) receptor 3 |
| C02 | Rn.38642 | NM_001106645 | Ddx58 | DEAD (Asp-Glu-Ala-Asp) box polypeptide 58 |
| C03 | Rn.9725 | NM_012908 | Faslg | Fas ligand (TNF superfamily, member 6) |
| C04 | Rn.177272 | NM_001108250 | Foxp3 | Forkhead box P3 |
| C05 | Rn.92350 | NM_133293 | Gata3 | GATA binding protein 3 |
| C06 | Rn.12 | NM_012967 | Icam1 | Intercellular adhesion molecule 1 |
| C07 | Rn.196548 | NM_001014786 | Ifna1 | Interferon-alpha 1 |
| C08 | Rn.105738 | NM_001105893 | Ifnar1 | Interferon (alpha, beta and omega) receptor 1 |
| C09 | Rn.138105 | NM_019127 | Ifnb1 | Interferon beta 1, fibroblast |
| C10 | Rn.10795 | NM_138880 | Ifng | Interferon gamma |
| C11 | Rn.19927 | NM_053783 | Ifngr1 | Interferon gamma receptor 1 |
| C12 | Rn.9868 | NM_012854 | Il10 | Interleukin 10 |
| D01 | Rn.9921 | NM_053828 | Il13 | Interleukin 13 |
| D02 | Rn.11118 | NM_019165 | Il18 | Interleukin 18 |
| D03 | Rn.12300 | NM_017019 | Il11a | Interleukin 1 alpha |
| D04 | Rn.9869 | NM_031512 | Il11b | Interleukin 1 beta |
| D05 | Rn.9758 | NM_013123 | Il1r1 | Interleukin 1 receptor, type I |
| D06 | Rn.9871 | NM_053836 | Il2 | Interleukin 2 |
| D07 | Rn.81073 | NM_130410 | Il23a | Interleukin 23, alpha subunit p19 |
| D08 | Rn.108255 | NM_201270 | Il4 | Interleukin 4 |
| D09 | Rn.44227 | NM_021834 | Il5 | Interleukin 5 |
| D10 | Rn.9873 | NM_012589 | Il6 | Interleukin 6 |
| D11 | Rn.22238 | NM_001127555 | Irak1 | Interleukin-1 receptor-associated kinase 1 |
| D12 | Rn.1499 | NM_001006969 | Irf3 | Interferon regulatory factor 3 |
| E01 | Rn.101159 | NM_001033691 | Irf7 | Interferon regulatory factor 7 |
| E02 | Rn.54465 | NM_012711 | Itgam | Integrin, alpha M |
| E03 | Rn.18909 | NM_031514 | Jak2 | Janus kinase 2 |
| E04 | Rn.93714 | NM_021835 | Jun | Jun oncogene |
| E05 | Rn.48863 | NM_017208 | Lbp | Lipopolysaccharide binding protein |
| E06 | Rn.2283 | NM_012771 | Lyz2 | Lysozyme 2 |
| E07 | Rn.34914 | NM_053842 | Mapk1 | Mitogen activated protein kinase 1 |
| E08 | Rn.88085 | NM_031020 | Mapk14 | Mitogen activated protein kinase 14 |
| E09 | Rn.2592 | NM_017347 | Mapk3 | Mitogen activated protein kinase 3 |

| Position | UniGene | GenBank | Symbol | Description |
|----------|-----------|--------------|---------|-------------------------------------------------------------------------------------|
| E10 | Rn.4090 | XM_341399 | Mapk8 | Mitogen-activated protein kinase 8 |
| E11 | Rn.9667 | NM_022704 | Mbl2 | Mannose-binding lectin (protein C) 2 |
| E12 | Rn.47782 | NM_001107036 | Mpo | Myeloperoxidase |
| F01 | Rn.10374 | NM_134350 | Mx2 | Myxovirus (influenza virus) resistance 2 |
| F02 | Rn.37341 | NM_198130 | Myd88 | Myeloid differentiation primary response gene 88 |
| F03 | Rn.2411 | XM_342346 | Nfkbl | Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1 |
| F04 | Rn.12550 | NM_001105720 | Nfkbia | Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha |
| F05 | Rn.214177 | XM_220513 | Nlrp3 | NLR family, pyrin domain containing 3 |
| F06 | Rn.218600 | NM_001106172 | Nod2 | Nucleotide-binding oligomerization domain containing 2 |
| F07 | Rn.92344 | NM_053468 | Rag1 | Recombination activating gene 1 |
| F08 | Rn.21421 | XM_347322 | Rorc | RAR-related orphan receptor C |
| F09 | Rn.105919 | NM_001031658 | Slc11a1 | Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1 |
| F10 | Rn.33229 | NM_032612 | Stat1 | Signal transducer and activator of transcription 1 |
| F11 | Rn.10247 | NM_012747 | Stat3 | Signal transducer and activator of transcription 3 |
| F12 | Rn.137580 | NM_001012226 | Stat4 | Signal transducer and activator of transcription 4 |
| G01 | Rn.6880 | NM_001044250 | Stat6 | Signal transducer and activator of transcription 6 |
| G02 | Rn.144930 | NM_001107043 | Tbx21 | T-box 21 |
| G03 | Rn.107212 | NM_001172120 | Tlr1 | Toll-like receptor 1 |
| G04 | Rn.46387 | NM_198769 | Tlr2 | Toll-like receptor 2 |
| G05 | Rn.15273 | NM_198791 | Tlr3 | Toll-like receptor 3 |
| G06 | Rn.14534 | NM_019178 | Tlr4 | Toll-like receptor 4 |
| G07 | Rn.198962 | NM_001145828 | Tlr5 | Toll-like receptor 5 |
| G08 | Rn.163249 | NM_207604 | Tlr6 | Toll-like receptor 6 |
| G09 | Rn.219862 | NM_001097582 | Tlr7 | Toll-like receptor 7 |
| G10 | Rn.92495 | NM_198131 | Tlr9 | Toll-like receptor 9 |
| G11 | Rn.2275 | NM_012675 | Tnf | Tumor necrosis factor (TNF superfamily, member 2) |
| G12 | Rn.220435 | NM_001107754 | Traf6 | Tnf receptor-associated factor 6 |
| 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, 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. |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------|
| RT ² First Strand Kit (12) | Enzymes and reagents for cDNA synthesis | 330401 |
| RT ² SYBR Green ROX [™] 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.

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.

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