

RT² Profiler™ PCR Array:

Human Dendritic and Antigen Presenting Cell

Catalog Number

PAHS-406A

PAHS-406C

PAHS-406D

PAHS-406E

PAHS-406F

PAHS-406G

For Real-Time Instruments:

ABI Standard Blocks; Bio-Rad iCycler, MyiQ, and (MJ Research) Chromo 4; Stratagene Mx3005p and Mx3000p

ABI 7500 and 7900HT FAST 96-Well Blocks, ABI StepOnePlus

Bio-Rad (MJ Research) Opticon and Opticon 2, Stratagene Mx4000

ABI 7900HT 384-Well Block

Roche LightCycler 480 96-well Blocks

Roche LightCycler 480 384-well Blocks

Description

The Human Dendritic and Antigen Presenting Cell RT² Profiler™ PCR Array profiles the expression of 84 genes focused on dendritic cell activation and maturation. Genes important for dendritic cell activation and maturation such as cytokines, chemokines and their receptors are included on this array along with other related cell surface receptors and signal transduction molecules. Genes involved in antigen uptake, processing, and presentation are also represented on this array. In addition to being functionally defined, many of these genes on the array are highly expressed in mature dendritic cells or show significant changes in expression during cell differentiation. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to dendritic and antigen presenting cells with this array.

Functional Gene Groupings

Cytokines, Chemokines and Their Receptors: CCL11, CCL13, CCL16, CCL19, CCL2, CCL3, CCL3L1, CCL4, CCL5, CCL7, CCL8, CCR1, CCR2, CCR3, CCR5, CXCL1, CXCL10, CXCL12, CXCL2, CXCR4, ERBB2, IFNG, IFNGR1, IL12A, IL12B, IL16, IL2, IL8, IL8RA, INHBA, LYN, MDK, MIF, TNF, TNFSF11, TRAP1.

Antigen Uptake: CD44, CDC42, ICAM1, ICAM2, RAC1, STK4, TAP2.

Antigen Presentation: B2M, CD1A, CD1B, CD1C, CD1D, CD209, CD28, CD4, CD40, CD40LG, CD74, CD80, CD86, CD8A, HLA-A, HLA-DMA, HLA-DOA, HLA-DPA1, HLA-DQA1, HLA-DQB1, TAPBP.

Cell Surface Receptors: CD2, CD40, FCER1A, FCER2, FCGR1A, LRP1, TLR1, TLR2.

Signal Transduction: CDKN1A, CEBPA, CSF1R, FAS, FCAR, IFIT3, ITGAM, ITGB2, NFKB1, NFKB2, PDIA3, RELA, RELB, VCL.

Storage Conditions

Please check the kit components immediately after you receive this package. We are only responsible for missing items reported within two (2) business days of receipt.

Storage Conditions: PCR Arrays are shipped at ambient temperature. Keep plates at -20 °C for long-term storage.

NOTE: Be sure that you have the correct PCR Array format for your instrument before starting the experiment.

Product Specification Sheet

References

1. Ohashi PS and DeFranco AL. Making and breaking tolerance. *Curr Opin in Immunol.* 2002, **14**: 744-759.
2. Turley SJ. Dendritic cells: inciting and inhibiting autoimmunity. *Curr Opin in Immunol.* 2002, **14**: 765-770.
3. Morse MA, Mosca PJ, Clay TM, Lyerly CH. Dendritic cell maturation in active immunotherapy strategies. *Expert Opin Biol Ther.* 2002 **2**(1): 35-43.
4. Granucci F, Castagnoli PR, Rogge L & Sinigaglia F. Gene expression profiling in immune cells using microarray. 2001. **126**: 257-266.
5. Hashimoto S, Suzuki T, Nagai S, Yamashita T, Toyota N & Matsushima K. Identification of genes specifically expressed in human activated and mature dendritic cells through serial analysis of gene expression. *Blood.* 2000 (6): 2206-2214.

Product Specification Sheet

Array Layout: Human Dendritic and Antigen Presenting Cell RT² Profiler™ PCR Array

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|----------|----------|----------|-------|-------|-------|--------|--------|--------|---------|---------|---------|
| A | CCL11 | CCL13 | CCL16 | CCL19 | CCL2 | CCL3 | CCL3L1 | CCL4 | CCL5 | CCL7 | CCL8 | CCR1 |
| B | CCR2 | CCR3 | CCR5 | CD1A | CD1B | CD1C | CD1D | CD2 | CD209 | CD28 | CD4 | CD40 |
| C | CD40LG | CD44 | CD74 | CD80 | CD86 | CD8A | CDC42 | CDKN1A | CEBPA | CSF1R | CXCL1 | CXCL10 |
| D | CXCL12 | CXCL2 | CXCR4 | ERBB2 | FAS | FCAR | FCER1A | FCER2 | FCGR1A | HLA-A | HLA-DMA | HLA-DOA |
| E | HLA-DPA1 | HLA-DQA1 | HLA-DQB1 | ICAM1 | ICAM2 | IFIT3 | IFNG | IFNGR1 | IL12A | IL12B | IL16 | IL2 |
| F | IL8 | IL8RA | INHBA | ITGAM | ITGB2 | LRP1 | LYN | MDK | MIF | NFKB1 | NFKB2 | PDIA3 |
| G | RAC1 | RELA | RELB | STK4 | TAP2 | TAPBP | TLR1 | TLR2 | TNF | TNFSF11 | TRAP1 | VCL |
| H | B2M | HPRT1 | RPL13A | GAPDH | ACTB | HGDC | RTC | RTC | RTC | PPC | PPC | PPC |

Gene Table

| Position | UniGene | GenBank | Symbol | Description |
|----------|-----------|-----------|----------|--|
| A01 | Hs.54460 | NM_002986 | CCL11 | Chemokine (C-C motif) ligand 11 |
| A02 | Hs.414629 | NM_005408 | CCL13 | Chemokine (C-C motif) ligand 13 |
| A03 | Hs.10458 | NM_004590 | CCL16 | Chemokine (C-C motif) ligand 16 |
| A04 | Hs.50002 | NM_006274 | CCL19 | Chemokine (C-C motif) ligand 19 |
| A05 | Hs.303649 | NM_002982 | CCL2 | Chemokine (C-C motif) ligand 2 |
| A06 | Hs.514107 | NM_002983 | CCL3 | Chemokine (C-C motif) ligand 3 |
| A07 | Hs.512683 | NM_021006 | CCL3L1 | Chemokine (C-C motif) ligand 3-like 1 |
| A08 | Hs.75703 | NM_002984 | CCL4 | Chemokine (C-C motif) ligand 4 |
| A09 | Hs.514821 | NM_002985 | CCL5 | Chemokine (C-C motif) ligand 5 |
| A10 | Hs.251526 | NM_006273 | CCL7 | Chemokine (C-C motif) ligand 7 |
| A11 | Hs.652137 | NM_005623 | CCL8 | Chemokine (C-C motif) ligand 8 |
| A12 | Hs.301921 | NM_001295 | CCR1 | Chemokine (C-C motif) receptor 1 |
| B01 | Hs.644637 | NM_000648 | CCR2 | Chemokine (C-C motif) receptor 2 |
| B02 | Hs.506190 | NM_001837 | CCR3 | Chemokine (C-C motif) receptor 3 |
| B03 | Hs.450802 | NM_000579 | CCR5 | Chemokine (C-C motif) receptor 5 |
| B04 | Hs.1309 | NM_001763 | CD1A | CD1a molecule |
| B05 | Hs.1310 | NM_001764 | CD1B | CD1b molecule |
| B06 | Hs.132448 | NM_001765 | CD1C | CD1c molecule |
| B07 | Hs.1799 | NM_001766 | CD1D | CD1d molecule |
| B08 | Hs.523500 | NM_001767 | CD2 | CD2 molecule |
| B09 | Hs.278694 | NM_021155 | CD209 | CD209 molecule |
| B10 | Hs.591629 | NM_006139 | CD28 | CD28 molecule |
| B11 | Hs.631659 | NM_000616 | CD4 | CD4 molecule |
| B12 | Hs.472860 | NM_001250 | CD40 | CD40 molecule, TNF receptor superfamily member 5 |
| C01 | Hs.592244 | NM_000074 | CD40LG | CD40 ligand (TNF superfamily, member 5, hyper-IgM syndrome) |
| C02 | Hs.502328 | NM_000610 | CD44 | CD44 molecule (Indian blood group) |
| C03 | Hs.436568 | NM_004355 | CD74 | CD74 molecule, major histocompatibility complex, class II invariant chain |
| C04 | Hs.838 | NM_005191 | CD80 | CD80 molecule |
| C05 | Hs.171182 | NM_006889 | CD86 | CD86 molecule |
| C06 | Hs.85258 | NM_001768 | CD8A | CD8a molecule |
| C07 | Hs.597524 | NM_001791 | CDC42 | Cell division cycle 42 (GTP binding protein, 25kDa) |
| C08 | Hs.370771 | NM_000389 | CDKN1A | Cyclin-dependent kinase inhibitor 1A (p21, Cip1) |
| C09 | Hs.76171 | NM_004364 | CEBPA | CCAAT/enhancer binding protein (C/EBP), alpha |
| C10 | Hs.483829 | NM_005211 | CSF1R | Colony stimulating factor 1 receptor, formerly McDonough feline sarcoma viral (v-fms) oncogene homolog |
| C11 | Hs.789 | NM_001511 | CXCL1 | Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha) |
| C12 | Hs.632586 | NM_001565 | CXCL10 | Chemokine (C-X-C motif) ligand 10 |
| D01 | Hs.522891 | NM_000609 | CXCL12 | Chemokine (C-X-C motif) ligand 12 (stromal cell-derived factor 1) |
| D02 | Hs.590921 | NM_002089 | CXCL2 | Chemokine (C-X-C motif) ligand 2 |
| D03 | Hs.593413 | NM_003467 | CXCR4 | Chemokine (C-X-C motif) receptor 4 |
| D04 | Hs.446352 | NM_004448 | ERBB2 | V-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian) |
| D05 | Hs.244139 | NM_000043 | FAS | Fas (TNF receptor superfamily, member 6) |
| D06 | Hs.631534 | NM_002000 | FCAR | Fc fragment of IgA ₁ receptor for |
| D07 | Hs.897 | NM_002001 | FCER1A | Fc fragment of IgE, high affinity I, receptor for; alpha polypeptide |
| D08 | Hs.465778 | NM_002002 | FCER2 | Fc fragment of IgE, low affinity II, receptor for (CD23) |
| D09 | Hs.77424 | NM_000566 | FCGR1A | Fc fragment of IgG, high affinity Ia, receptor (CD64) |
| D10 | Hs.181244 | NM_002116 | HLA-A | Major histocompatibility complex, class I, A |
| D11 | Hs.351279 | NM_006120 | HLA-DMA | Major histocompatibility complex, class II, DM alpha |
| D12 | Hs.631991 | NM_002119 | HLA-DOA | Major histocompatibility complex, class II, DO alpha |
| E01 | Hs.347270 | NM_033554 | HLA-DPA1 | Major histocompatibility complex, class II, DP alpha 1 |
| E02 | Hs.387679 | NM_002122 | HLA-DQA1 | Major histocompatibility complex, class II, DQ alpha 1 |
| E03 | Hs.409934 | NM_002123 | HLA-DQB1 | Major histocompatibility complex, class II, DQ beta 1 |

Product Specification Sheet

| Position | UniGene | GenBank | Symbol | Description |
|----------|-----------|-----------|---------|---|
| E04 | Hs.643447 | NM_000201 | ICAM1 | Intercellular adhesion molecule 1 (CD54), human rhinovirus receptor |
| E05 | Hs.431460 | NM_000873 | ICAM2 | Intercellular adhesion molecule 2 |
| E06 | Hs.47338 | NM_001549 | IFIT3 | Interferon-induced protein with tetratricopeptide repeats 3 |
| E07 | Hs.856 | NM_000619 | IFNG | Interferon, gamma |
| E08 | Hs.520414 | NM_000416 | IFNGR1 | Interferon gamma receptor 1 |
| E09 | Hs.673 | NM_000882 | IL12A | Interleukin 12A (natural killer cell stimulatory factor 1, cytotoxic lymphocyte maturation factor 1, p35) |
| E10 | Hs.674 | NM_002187 | IL12B | Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40) |
| E11 | Hs.459095 | NM_004513 | IL16 | Interleukin 16 (lymphocyte chemoattractant factor) |
| E12 | Hs.89679 | NM_000586 | IL2 | Interleukin 2 |
| F01 | Hs.624 | NM_000584 | IL8 | Interleukin 8 |
| F02 | Hs.194778 | NM_000634 | IL8RA | Interleukin 8 receptor, alpha |
| F03 | Hs.583348 | NM_002192 | INHBA | Inhibin, beta A (activin A, activin AB alpha polypeptide) |
| F04 | Hs.172631 | NM_000632 | ITGAM | Integrin, alpha M (complement component 3 receptor 3 subunit) |
| F05 | Hs.375957 | NM_000211 | ITGB2 | Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit) |
| F06 | Hs.162757 | NM_002332 | LRP1 | Low density lipoprotein-related protein 1 (alpha-2-macroglobulin receptor) |
| F07 | Hs.491767 | NM_002350 | LYN | V-yes-1 Yamaguchi sarcoma viral related oncogene homolog |
| F08 | Hs.82045 | NM_002391 | MDK | Midkine (neurite growth-promoting factor 2) |
| F09 | Hs.407995 | NM_002415 | MIF | Macrophage migration inhibitory factor (glycosylation-inhibiting factor) |
| F10 | Hs.431926 | NM_003998 | NFKB1 | Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1 (p105) |
| F11 | Hs.73090 | NM_002502 | NFKB2 | Nuclear factor of kappa light polypeptide gene enhancer in B-cells 2 (p49/p100) |
| F12 | Hs.591095 | NM_005313 | PDIA3 | Protein disulfide isomerase family A, member 3 |
| G01 | Hs.413812 | NM_006908 | RAC1 | Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1) |
| G02 | Hs.502875 | NM_021975 | RELA | V-rel reticuloendotheliosis viral oncogene homolog A, nuclear factor of kappa light polypeptide gene enhancer in B-cells 3, p65 (avian) |
| G03 | Hs.307905 | NM_006509 | RELB | V-rel reticuloendotheliosis viral oncogene homolog B, nuclear factor of kappa light polypeptide gene enhancer in B-cells 3 (avian) |
| G04 | Hs.472838 | NM_006282 | STK4 | Serine/threonine kinase 4 |
| G05 | Hs.502 | NM_000544 | TAP2 | Transporter 2, ATP-binding cassette, sub-family B (MDR/TAP) |
| G06 | Hs.370937 | NM_003190 | TAPBP | TAP binding protein (tapasin) |
| G07 | Hs.111805 | NM_003263 | TLR1 | Toll-like receptor 1 |
| G08 | Hs.519033 | NM_003264 | TLR2 | Toll-like receptor 2 |
| G09 | Hs.241570 | NM_000594 | TNF | Tumor necrosis factor (TNF superfamily, member 2) |
| G10 | Hs.333791 | NM_003701 | TNFSF11 | Tumor necrosis factor (ligand) superfamily, member 11 |
| G11 | Hs.30345 | NM_016292 | TRAP1 | TNF receptor-associated protein 1 |
| G12 | Hs.643896 | NM_003373 | VCL | Vinculin |
| H01 | Hs.534255 | NM_004048 | B2M | Beta-2-microglobulin |
| H02 | Hs.412707 | NM_000194 | HPRT1 | Hypoxanthine phosphoribosyltransferase 1 (Lesch-Nyhan syndrome) |
| H03 | Hs.546356 | NM_012423 | RPL13A | Ribosomal protein L13a |
| H04 | Hs.544577 | NM_002046 | GAPDH | Glyceraldehyde-3-phosphate dehydrogenase |
| H05 | Hs.520640 | NM_001101 | ACTB | Actin, beta |
| 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 |