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

# Human Angiogenic Growth Factors

### Cat. no. 330231 PAHS-072ZA

### 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™ |

QIAGEN®

Sample & Assay Technologies

## Description

The Human Angiogenic Growth Factors RT² Profiler PCR Array profiles the expression of 84 growth factors and inhibitors related to angiogenesis. This array contains the growth factors, cytokines, and chemokines that promote the biogenesis of new blood vessels and the genes that encode inhibitors of this process. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to the promotion and inhibition of angiogenesis 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 | AGGF1 | AMOT | ANG | ANGPT1 | ANGPT2 | ANGPTL1 | BAI1 | BMP2 | BTG1 | CCL15 | CCL2 | CD55 |
| B | CD59 | CHGA | COL18A1 | COL4A3 | CSF3 | CXCL10 | CXCL11 | CXCL12 | CXCL13 | CXCL14 | CXCL2 | CXCL3 |
| C | CXCL5 | CXCL6 | CXCL9 | EDIL3 | EREG | FGF1 | FGF13 | FGF2 | FGFBP1 | FIGF | FN1 | FOXO4 |
| D | FST | GRN | GRP | HGF | IFNA1 | IFNB1 | IFNG | IL10 | IL12A | IL12B | IL17F | IL6 |
| E | IL8 | KITLG | KLK3 | LEP | MDK | NPPB | NPR1 | PDGFB | PDGFD | PF4 | PGF | PLG |
| F | PPBP | PRL | PROK1 | PTN | RHOB | RNH1 | RUNX1 | SERPINC1 | SERPINE1 | SERPINF1 | SPINK5 | STAB1 |
| G | TGFA | TGFB1 | THBS1 | TIE1 | TIMP1 | TIMP2 | TIMP3 | TNF | TNNI2 | TNNI3 | TYMP | 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.634849 | NM_018046 | AGGF1 | Angiogenic factor with G patch and FHA domains 1 |
| A02 | Hs.528051 | NM_133265 | AMOT | Angiomotin |
| A03 | Hs.283749 | NM_001145 | ANG | Angiogenin, ribonuclease, RNase A family, 5 |
| A04 | Hs.369675 | NM_001146 | ANGPT1 | Angiopoietin 1 |
| A05 | Hs.583870 | NM_001147 | ANGPT2 | Angiopoietin 2 |
| A06 | Hs.591474 | NM_004673 | ANGPTL1 | Angiopoietin-like 1 |
| A07 | Hs.194654 | NM_001702 | BAI1 | Brain-specific angiogenesis inhibitor 1 |
| A08 | Hs.73853 | NM_001200 | BMP2 | Bone morphogenetic protein 2 |
| A09 | Hs.255935 | NM_001731 | BTG1 | B-cell translocation gene 1, anti-proliferative |
| A10 | Hs.272493 | NM_032965 | CCL15 | Chemokine (C-C motif) ligand 15 |
| A11 | Hs.303649 | NM_002982 | CCL2 | Chemokine (C-C motif) ligand 2 |
| A12 | Hs.126517 | NM_000574 | CD55 | CD55 molecule, decay accelerating factor for complement (Cromer blood group) |
| B01 | Hs.278573 | NM_000611 | CD59 | CD59 molecule, complement regulatory protein |
| B02 | Hs.150793 | NM_001275 | CHGA | Chromogranin A (parathyroid secretory protein 1) |
| B03 | Hs.517356 | NM_030582 | COL18A1 | Collagen, type XVIII, alpha 1 |
| B04 | Hs.570065 | NM_000091 | COL4A3 | Collagen, type IV, alpha 3 (Goodpasture antigen) |
| B05 | Hs.2233 | NM_000759 | CSF3 | Colony stimulating factor 3 (granulocyte) |
| B06 | Hs.632586 | NM_001565 | CXCL10 | Chemokine (C-X-C motif) ligand 10 |
| B07 | Hs.632592 | NM_005409 | CXCL11 | Chemokine (C-X-C motif) ligand 11 |
| B08 | Hs.522891 | NM_000609 | CXCL12 | Chemokine (C-X-C motif) ligand 12 |
| B09 | Hs.100431 | NM_006419 | CXCL13 | Chemokine (C-X-C motif) ligand 13 |
| B10 | Hs.483444 | NM_004887 | CXCL14 | Chemokine (C-X-C motif) ligand 14 |
| B11 | Hs.590921 | NM_002089 | CXCL2 | Chemokine (C-X-C motif) ligand 2 |
| B12 | Hs.89690 | NM_002090 | CXCL3 | Chemokine (C-X-C motif) ligand 3 |
| C01 | Hs.89714 | NM_002994 | CXCL5 | Chemokine (C-X-C motif) ligand 5 |
| C02 | Hs.164021 | NM_002993 | CXCL6 | Chemokine (C-X-C motif) ligand 6 (granulocyte chemotactic protein 2) |
| C03 | Hs.77367 | NM_002416 | CXCL9 | Chemokine (C-X-C motif) ligand 9 |
| C04 | Hs.482730 | NM_005711 | EDIL3 | EGF-like repeats and discoidin I-like domains 3 |
| C05 | Hs.115263 | NM_001432 | EREG | Epiregulin |
| C06 | Hs.483635 | NM_000800 | FGF1 | Fibroblast growth factor 1 (acidic) |
| C07 | Hs.6540 | NM_004114 | FGF13 | Fibroblast growth factor 13 |
| C08 | Hs.284244 | NM_002006 | FGF2 | Fibroblast growth factor 2 (basic) |
| C09 | Hs.1690 | NM_005130 | FGFBP1 | Fibroblast growth factor binding protein 1 |
| C10 | Hs.11392 | NM_004469 | FIGF | C-fos induced growth factor (vascular endothelial growth factor D) |
| C11 | Hs.203717 | NM_002026 | FN1 | Fibronectin 1 |
| C12 | Hs.584654 | NM_005938 | FOXO4 | Forkhead box O4 |
| D01 | Hs.9914 | NM_006350 | FST | Follistatin |
| D02 | Hs.514220 | NM_002087 | GRN | Granulin |
| D03 | Hs.153444 | NM_002091 | GRP | Gastrin-releasing peptide |
| D04 | Hs.396530 | NM_000601 | HGF | Hepatocyte growth factor (hepapoietin A; scatter factor) |
| D05 | Hs.37026 | NM_024013 | IFNA1 | Interferon, alpha 1 |
| D06 | Hs.93177 | NM_002176 | IFNB1 | Interferon, beta 1, fibroblast |
| D07 | Hs.856 | NM_000619 | IFNG | Interferon, gamma |
| D08 | Hs.193717 | NM_000572 | IL10 | Interleukin 10 |

| Position | UniGene | GenBank | Symbol | Description |
|---|---|---|---|---|
| D09 | Hs.673 | NM_000882 | IL12A | Interleukin 12A (natural killer cell stimulatory factor 1, cytotoxic lymphocyte maturation factor 1, p35) |
| D10 | Hs.674 | NM_002187 | IL12B | Interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40) |
| D11 | Hs.272295 | NM_052872 | IL17F | Interleukin 17F |
| D12 | Hs.654458 | NM_000600 | IL6 | Interleukin 6 (interferon, beta 2) |
| E01 | Hs.624 | NM_000584 | IL8 | Interleukin 8 |
| E02 | Hs.1048 | NM_003994 | KITLG | KIT ligand |
| E03 | Hs.171995 | NM_001648 | KLK3 | Kallikrein-related peptidase 3 |
| E04 | Hs.194236 | NM_000230 | LEP | Leptin |
| E05 | Hs.82045 | NM_002391 | MDK | Midkine (neurite growth-promoting factor 2) |
| E06 | Hs.219140 | NM_002521 | NPPB | Natriuretic peptide B |
| E07 | Hs.490330 | NM_000906 | NPR1 | Natriuretic peptide receptor A/guanylate cyclase A (atrionatriuretic peptide receptor A) |
| E08 | Hs.1976 | NM_002608 | PDGFB | Platelet-derived growth factor beta polypeptide |
| E09 | Hs.352298 | NM_025208 | PDGFD | Platelet derived growth factor D |
| E10 | Hs.81564 | NM_002619 | PF4 | Platelet factor 4 |
| E11 | Hs.252820 | NM_002632 | PGF | Placental growth factor |
| E12 | Hs.143436 | NM_000301 | PLG | Plasminogen |
| F01 | Hs.2164 | NM_002704 | PPBP | Pro-platelet basic protein (chemokine (C-X-C motif) ligand 7) |
| F02 | Hs.1905 | NM_000948 | PRL | Prolactin |
| F03 | Hs.514793 | NM_032414 | PROK1 | Prokineticin 1 |
| F04 | Hs.371249 | NM_002825 | PTN | Pleiotrophin |
| F05 | Hs.502876 | NM_004040 | RHOB | Ras homolog gene family, member B |
| F06 | Hs.530687 | NM_002939 | RNH1 | Ribonuclease/angiogenin inhibitor 1 |
| F07 | Hs.149261 | NM_001754 | RUNX1 | Runt-related transcription factor 1 |
| F08 | Hs.75599 | NM_000488 | SERPINC1 | Serpin peptidase inhibitor, clade C (antithrombin), member 1 |
| F09 | Hs.414795 | NM_000602 | SERPINE1 | Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1 |
| F10 | Hs.532768 | NM_002615 | SERPINF1 | Serpin peptidase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), member 1 |
| F11 | Hs.331555 | NM_006846 | SPINK5 | Serine peptidase inhibitor, Kazal type 5 |
| F12 | Hs.301989 | NM_015136 | STAB1 | Stabilin 1 |
| G01 | Hs.170009 | NM_003236 | TGFA | Transforming growth factor, alpha |
| G02 | Hs.645227 | NM_000660 | TGFB1 | Transforming growth factor, beta 1 |
| G03 | Hs.164226 | NM_003246 | THBS1 | Thrombospondin 1 |
| G04 | Hs.78824 | NM_005424 | TIE1 | Tyrosine kinase with immunoglobulin-like and EGF-like domains 1 |
| G05 | Hs.522632 | NM_003254 | TIMP1 | TIMP metallopeptidase inhibitor 1 |
| G06 | Hs.633514 | NM_003255 | TIMP2 | TIMP metallopeptidase inhibitor 2 |
| G07 | Hs.644633 | NM_000362 | TIMP3 | TIMP metallopeptidase inhibitor 3 |
| G08 | Hs.241570 | NM_000594 | TNF | Tumor necrosis factor |
| G09 | Hs.523403 | NM_003282 | TNNI2 | Troponin I type 2 (skeletal, fast) |
| G10 | Hs.644596 | NM_000363 | TNNI3 | Troponin I type 3 (cardiac) |
| G11 | Hs.592212 | NM_001953 | TYMP | Thymidine phosphorylase |
| 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.

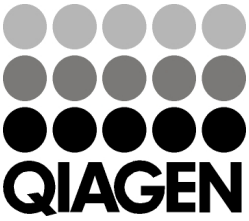
RT² Profiler PCR Array products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

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.



**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