

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

## Dog Cell Death PathwayFinder.

Cat. no. 330231 PAFD-212ZA

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

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 | ABL1    | AKT1   | APAF1   | APP       | ATG12    | ATG16L1 | ATG3    | ATG5       | ATG7      | ATP6V1G2 | BAX      | BCL2   |
| B | BCL2A1  | BCL2L1 | BCL2L11 | BECN1     | BIRC2    | BIRC3   | BMF     | C5H1orf159 | CASP2     | CASP3    | CASP4    | CASP6  |
| C | CASP7   | CASP9  | CCDC103 | CD40      | CD40LG   | CFLAR   | COMMD4  | CTSB       | CTSS      | CYBB     | CYLD     | DEFB1  |
| D | DENND4A | DFFA   | DPYSL4  | EIF5B     | ESR1     | FAS     | FASLG   | FOXI1      | GAA       | GADD45A  | GALNT5   | GRB2   |
| E | HSPBAP1 | HTT    | IFNG    | IGF1      | IGF1R    | INS     | JPH3    | KCNIP1     | LOC481473 | MAG      | MAP1LC3A | MAPK8  |
| F | MCL1    | NFKB1  | NOL3    | PARP1     | PARP2    | PIK3C3  | PTEN    | PVR        | RAB25     | RP56KB1  | SNCA     | SPATA2 |
| G | SQSTM1  | SYCP2  | TNF     | TNFRSF11B | TNFRSF1A | TNFRSF4 | TNFRSF8 | TP53       | TRAF2     | TXNL4B   | ULK1     | XIAP   |
| H | ACTB    | B2M    | GAPDH   | HPRT1     | RPLP1    | FGDC    | RTC     | RTC        | RTC       | PPC      | PPC      | PPC    |

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

| Position | UniGene   | GenBank      | Symbol     | Description                                                                            | Assay     |
|----------|-----------|--------------|------------|----------------------------------------------------------------------------------------|-----------|
| A01      | N/A       | XM_548413    | ABL1       | C-abl oncogene 1, non-receptor tyrosine kinase                                         | PPF10809A |
| A02      | N/A       | XM_005623876 | AKT1       | V-akt murine thymoma viral oncogene homolog 1                                          | PPF10547A |
| A03      | N/A       | XM_003432034 | APAF1      | Apoptotic peptidase activating factor 1                                                | PPF05880A |
| A04      | Cfa.24091 | NM_001006601 | APP        | Amyloid beta (A4) precursor protein                                                    | PPF00016A |
| A05      | N/A       | XM_531866    | ATG12      | ATG12 autophagy related 12 homolog (S. cerevisiae)                                     | PPF00884A |
| A06      | N/A       | XM_005635866 | ATG16L1    | ATG16 autophagy related 16-like 1 (S. cerevisiae)                                      | PPF02700A |
| A07      | N/A       | XM_535740    | ATG3       | ATG3 autophagy related 3 homolog (S. cerevisiae)                                       | PPF03436A |
| A08      | N/A       | XM_005627675 | ATG5       | ATG5 autophagy related 5 homolog (S. cerevisiae)                                       | PPF12914A |
| A09      | N/A       | XM_005632152 | ATG7       | ATG7 autophagy related 7 homolog (S. cerevisiae)                                       | PPF02112A |
| A10      | Cfa.10969 | NM_001014376 | ATP6V1G2   | ATPase, H+ transporting, lysosomal 13kDa, V1 subunit G2                                | PPF01010A |
| A11      | Cfa.22    | NM_001003011 | BAX        | BCL2-associated X protein                                                              | PPF00118A |
| A12      | Cfa.110   | NM_001002949 | BCL2       | B-cell CLL/lymphoma 2                                                                  | PPF00024A |
| B01      | N/A       | XM_545888    | BCL2A1     | BCL2-related protein A1                                                                | PPF09289A |
| B02      | Cfa.3481  | NM_001003072 | BCL2L1     | BCL2-like 1                                                                            | PPF00197A |
| B03      | N/A       | XR_001318022 | BCL2L11    | Bcl-2-like protein 11-like                                                             | PPF13807A |
| B04      | N/A       | XM_005624442 | BECN1      | Similar to Beclin 1 (Coiled-coil myosin-like BCL2-interacting protein) (Protein GT197) | PPF14682A |
| B05      | Cfa.828   | NM_001048023 | BIRC2      | Baculoviral IAP repeat containing 2                                                    | PPF04015A |
| B06      | Cfa.18376 | NM_001080725 | BIRC3      | Baculoviral IAP repeat containing 3                                                    | PPF09677A |
| B07      | N/A       | XM_843970    | BMF        | Bcl2 modifying factor                                                                  | PPF11427A |
| B08      | N/A       | XM_843405    | C5H1orf159 | Hypothetical protein LOC606926                                                         | PPF16114A |
| B09      | Cfa.12400 | NM_001195151 | CASP2      | Caspase 2, apoptosis-related cysteine peptidase                                        | PPF05929A |
| B10      | Cfa.84    | NM_001003042 | CASP3      | Caspase 3, apoptosis-related cysteine peptidase                                        | PPF00153A |
| B11      | Cfa.3589  | NM_001003125 | CASP4      | Caspase 4, apoptosis-related cysteine peptidase                                        | PPF00299A |
| B12      | N/A       | XM_545022    | CASP6      | Caspase 6, apoptosis-related cysteine peptidase                                        | PPF08848A |
| C01      | N/A       | XM_005637738 | CASP7      | Caspase 7, apoptosis-related cysteine peptidase                                        | PPF08275A |
| C02      | Cfa.20874 | NM_001031633 | CASP9      | Caspase 9, apoptosis-related cysteine peptidase                                        | PPF08596A |
| C03      | N/A       | XM_548057    | CCDC103    | Coiled-coil domain containing 103                                                      | PPF10577A |
| C04      | Cfa.180   | NM_001002982 | CD40       | CD40 molecule, TNF receptor superfamily member 5                                       | PPF00069A |
| C05      | Cfa.179   | NM_001002981 | CD40LG     | CD40 ligand                                                                            | PPF00068A |
| C06      | N/A       | XM_545592    | CFLAR      | CASP8 and FADD-like apoptosis regulator                                                | PPF09112A |
| C07      | N/A       | XM_848234    | COMMD4     | COMM domain containing 4                                                               | PPF13831A |
| C08      | N/A       | XM_543203    | CTSB       | Cathepsin B                                                                            | PPF07806A |
| C09      | Cfa.1661  | NM_001002938 | CTSS       | Cathepsin S                                                                            | PPF00010A |
| C10      | Cfa.40704 | NM_001100291 | CYBB       | Cytochrome b-245, beta polypeptide (chronic granulomatous disease)                     | PPF10994A |
| C11      | N/A       | XM_849343    | CYLD       | Cylindromatosis (turban tumor syndrome)                                                | PPF13252A |
| C12      | Cfa.47269 | NM_001113713 | DEFB1      | Defensin, beta 1                                                                       | PPF13069A |
| D01      | N/A       | XM_003433926 | DENND4A    | DENN/MADD domain containing 4A                                                         | PPF08702A |
| D02      | N/A       | XM_544574    | DFFA       | DNA fragmentation factor, 45kDa, alpha polypeptide                                     | PPF08609A |
| D03      | N/A       | XM_548709    | DPYSL4     | Dihydropyrimidinase-like 4                                                             | PPF10887A |
| D04      | N/A       | XM_005626021 | EIF5B      | Eukaryotic translation initiation factor 5B                                            | PPF00824A |
| D05      | Cfa.3504  | NM_001286958 | ESR1       | Estrogen receptor 1                                                                    | PPF00219B |
| D06      | N/A       | XM_005636650 | FAS        | Fas cell surface death receptor                                                        | PPF08028A |
| D07      | Cfa.4547  | NM_001287153 | FASLG      | Fas ligand (TNF superfamily, member 6)                                                 | PPF00624A |

| Position | UniGene   | GenBank      | Symbol    | Description                                                                                       | Assay     |
|----------|-----------|--------------|-----------|---------------------------------------------------------------------------------------------------|-----------|
| D08      | N/A       | XM_546245    | FOXI1     | Forkhead box I1                                                                                   | PPF09497A |
| D09      | N/A       | XM_005624022 | GAA       | Glucosidase, alpha; acid                                                                          | PPF06268A |
| D10      | N/A       | XM_003639101 | GADD45A   | Growth arrest and DNA damage-inducible protein GADD45<br>alpha-like                               | PPF18163A |
| D11      | N/A       | XM_545481    | GALNT5    | UDP-N-acetyl-alpha-D-galactosamine:polypeptide<br>N-acetylgalactosaminyltransferase 5 (GalNAc-T5) | PPF15589A |
| D12      | N/A       | XM_540431    | GRB2      | Growth factor receptor-bound protein 2                                                            | PPF06233A |
| E01      | N/A       | XM_535763    | HSPBAP1   | HSPB (heat shock 27kDa) associated protein 1                                                      | PPF03451A |
| E02      | N/A       | XM_536221    | HTT       | Huntingtin                                                                                        | PPF03765A |
| E03      | Cfa.3900  | NM_001003174 | IFNG      | Interferon gamma                                                                                  | PPF00369A |
| E04      | Cfa.3888  | NM_001313855 | IGF1      | Insulin-like growth factor 1 (somatomedin C)                                                      | PPF12664A |
| E05      | Cfa.3911  | XM_545828    | IGF1R     | Insulin-like growth factor 1 receptor                                                             | PPF00607A |
| E06      | Cfa.18796 | NM_001130093 | INS       | Insulin                                                                                           | PPF06441A |
| E07      | N/A       | XM_546789    | JPH3      | Junctophilin 3                                                                                    | PPF09840A |
| E08      | N/A       | XM_546243    | KCNIP1    | Kv channel interacting protein 1                                                                  | PPF09495A |
| E09      | N/A       | XM_022425067 | LOC481473 | Immunity-related GTPase family M protein                                                          | PPF05252A |
| E10      | N/A       | XM_848694    | MAG       | Myelin associated glycoprotein                                                                    | PPF13361A |
| E11      | N/A       | XM_005634951 | MAP1LC3A  | Microtubule-associated protein 1 light chain 3 alpha                                              | PPF02559A |
| E12      | N/A       | XM_534943    | MAPK8     | Mitogen-activated protein kinase 8                                                                | PPF02911A |
| F01      | Cfa.34    | NM_001003016 | MCL1      | Myeloid cell leukemia sequence 1 (BCL2-related)                                                   | PPF00126A |
| F02      | Cfa.10766 | NM_001003344 | NFKB1     | Nuclear factor of kappa light polypeptide gene enhancer in B-cells<br>1                           | PPF00590A |
| F03      | Cfa.25663 | XM_848890    | NOL3      | Nucleolar protein 3 (apoptosis repressor with CARD domain)                                        | PPF13076A |
| F04      | N/A       | XM_547506    | PARP1     | Poly (ADP-ribose) polymerase 1                                                                    | PPF10287A |
| F05      | N/A       | XM_532616    | PARP2     | Poly (ADP-ribose) polymerase 2                                                                    | PPF01370A |
| F06      | N/A       | NM_001287160 | PIK3C3    | Phosphoinositide-3-kinase, class 3                                                                | PPF10348A |
| F07      | Cfa.3695  | NM_001003192 | PTEN      | Phosphatase and tensin homolog                                                                    | PPF00398A |
| F08      | N/A       | XM_005616467 | PVR       | Poliovirus receptor                                                                               | PPF02054A |
| F09      | N/A       | NM_001313865 | RAB25     | RAB25, member RAS oncogene family                                                                 | PPF10307A |
| F10      | N/A       | XM_005624752 | RPS6KB1   | Ribosomal protein S6 kinase, 70kDa, polypeptide 1                                                 | PPF04757A |
| F11      | N/A       | XM_005639186 | SNCA      | Synuclein, alpha (non A4 component of amyloid precursor)                                          | PPF03381A |
| F12      | N/A       | XM_543047    | SPATA2    | Spermatogenesis associated 2                                                                      | PPF07724A |
| G01      | N/A       | XM_014117639 | SQSTM1    | Sequestosome 1                                                                                    | PPF14780A |
| G02      | N/A       | XM_014107144 | SYCP2     | Synaptonemal complex protein 2                                                                    | PPF02622A |
| G03      | Cfa.54    | NM_001003244 | TNF       | Tumor necrosis factor                                                                             | PPF00476A |
| G04      | N/A       | XM_539146    | TNFRSF11B | Tumor necrosis factor receptor superfamily, member 11b                                            | PPF05576A |
| G05      | Cfa.3498  | XM_849381    | TNFRSF1A  | Tumor necrosis factor receptor superfamily, member 1A                                             | PPF00213A |
| G06      | N/A       | XM_546720    | TNFRSF4   | Tumor necrosis factor receptor superfamily, member 4                                              | PPF09790A |
| G07      | N/A       | XM_005617983 | TNFRSF8   | Tumor necrosis factor receptor superfamily, member 8                                              | PPF08601A |
| G08      | Cfa.3658  | NM_001003210 | TP53      | Tumor protein p53                                                                                 | PPF00431A |
| G09      | N/A       | XM_005625072 | TRAF2     | TNF receptor-associated factor 2                                                                  | PPF04817A |
| G10      | N/A       | XM_848314    | TXNL4B    | Thioredoxin-like 4B                                                                               | PPF13861A |
| G11      | N/A       | XM_005636080 | ULK1      | Unc-51-like kinase 1 (C. elegans)                                                                 | PPF02710A |
| G12      | Cfa.4543  | XM_538165    | XIAP      | X-linked inhibitor of apoptosis                                                                   | PPF00642A |
| H01      | Cfa.17735 | NM_001195845 | ACTB      | Actin, beta                                                                                       | PPF12880A |
| H02      | N/A       | XM_535458    | B2M       | Beta-2-microglobulin                                                                              | PPF03253A |
| H03      | Cfa.36213 | NM_001003142 | GAPDH     | Glyceraldehyde-3-phosphate dehydrogenase                                                          | PPF00328A |
| H04      | Cfa.4551  | NM_001003357 | HPRT1     | Hypoxanthine phosphoribosyltransferase 1                                                          | PPF00602A |
| H05      | N/A       | XM_014109387 | RPLP1     | Ribosomal protein, large, P1                                                                      | PPF03305A |
| H06      | N/A       | SA_00130     | FGDC      | Dog Genomic DNA Contamination                                                                     | PPF68934A |
| H07      | N/A       | SA_00104     | RTC       | Reverse Transcription Control                                                                     | PPX63340A |
| H08      | N/A       | SA_00104     | RTC       | Reverse Transcription Control                                                                     | PPX63340A |
| H09      | N/A       | SA_00104     | RTC       | Reverse Transcription Control                                                                     | PPX63340A |
| H10      | N/A       | SA_00103     | PPC       | Positive PCR Control                                                                              | PPX63339A |
| H11      | N/A       | SA_00103     | PPC       | Positive PCR Control                                                                              | PPX63339A |
| H12      | N/A       | SA_00103     | PPC       | Positive PCR Control                                                                              | PPX63339A |

## 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.

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