

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

## Rat EGF / PDGF Signaling Pathway

Cat. no. 330231 PARN-040ZA

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 Rat EGF / PDGF Signaling RT<sup>2</sup> Profiler PCR Array profiles the expression of 84 genes related to EGF / PDGF-mediated signal transduction. This array includes genes that encode members of the Epidermal Growth Factor (EGF) and Platelet-Derived Growth Factor (PDGF) Signaling Pathways. The array represents growth factors and their receptors, proteins involved in signaling downstream of the growth factors, and the genes targeted by growth factor-mediated stimulation. Members of the MAP Kinase pathway, the AKT / PI3K pathway, and other downstream signaling cascades are included as well. Using real-time PCR, you can easily and reliably analyze expression of a focused panel of genes related to EGF / PDGF signaling 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     |
|----------|-------|--------|--------|-------|---------|---------|---------|--------|--------|--------|--------|--------|
| <b>A</b> | Actr2 | Akt1   | Akt2   | Akt3  | Araf    | Aif1    | Aif2    | Bad    | Bcar1  | Bcl2   | Braf   | Casp3  |
| <b>B</b> | Casp9 | Cblb   | Ccnd1  | Chuk  | Col1a1  | Creb1   | Cank2a1 | Csnk2b | Dusp1  | Dusp6  | Egf    | Egfr   |
| <b>C</b> | Egr1  | Eif4e  | Eps8   | Faslg | Fn1     | Fos     | Foxo3   | Gab1   | Grb2   | Gsk3a  | Gsk3b  | Hbegf  |
| <b>D</b> | Hras  | Ikbbk  | Il2    | Jak1  | Jun     | Kcnh8   | Kras    | Lta    | Map2k1 | Map2k4 | Map2k7 | Map3k2 |
| <b>E</b> | Mapk1 | Mapk10 | Mapk3  | Mapk8 | Mapk9   | Mknk1   | Mmp7    | Nck2   | Nfatc3 | Nfkb1  | Nras   | Nup62  |
| <b>F</b> | Pdgfa | Pdgfb  | Pdgfra | Pdpk1 | Pik3ca  | Pik3r1  | Pik3r2  | Plat   | Plcg1  | Ppp2ca | Prkca  | Pten   |
| <b>G</b> | Raf1  | Rap1a  | Rasa1  | Rhoa  | Rps6ka5 | Rps6kb1 | Shc1    | Src    | Stat1  | Stat3  | Stat5a | Tp53   |
| <b>H</b> | Actb  | B2m    | Hprt1  | Ldha  | Rplp1   | RGDC    | RTC     | RTC    | RTC    | PPC    | PPC    | PPC    |

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

| Position | UniGene   | GenBank      | Symbol  | Description                                                                |
|----------|-----------|--------------|---------|----------------------------------------------------------------------------|
| A01      | Rn.102249 | NM_001009268 | Actr2   | ARP2 actin-related protein 2 homolog (yeast)                               |
| A02      | Rn.11422  | NM_033230    | Akt1    | V-akt murine thymoma viral oncogene homolog 1                              |
| A03      | Rn.87066  | NM_017093    | Akt2    | V-akt murine thymoma viral oncogene homolog 2                              |
| A04      | Rn.10506  | NM_031575    | Akt3    | V-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma)    |
| A05      | Rn.1714   | NM_022532    | Araf    | V-raf murine sarcoma 3611 viral oncogene homolog                           |
| A06      | Rn.105304 | NM_001100895 | Aif1    | Activating transcription factor 1                                          |
| A07      | Rn.9825   | NM_031018    | Aif2    | Activating transcription factor 2                                          |
| A08      | Rn.36696  | NM_022698    | Bad     | BCL2-associated agonist of cell death                                      |
| A09      | Rn.40101  | NM_012931    | Bcar1   | Breast cancer anti-estrogen resistance 1                                   |
| A10      | Rn.9996   | NM_016993    | Bcl2    | B-cell CLL/lymphoma 2                                                      |
| A11      | Rn.205813 | XM_231692    | Braf    | V-raf murine sarcoma viral oncogene homolog B1                             |
| A12      | Rn.10562  | NM_012922    | Casp3   | Caspase 3                                                                  |
| B01      | Rn.32199  | NM_031632    | Casp9   | Caspase 9, apoptosis-related cysteine peptidase                            |
| B02      | Rn.21799  | NM_133601    | Cblb    | Cas-Br-M (murine) ecotropic retroviral transforming sequence b             |
| B03      | Rn.22279  | NM_171992    | Ccnd1   | Cyclin D1                                                                  |
| B04      | Rn.23019  | NM_001107588 | Chuk    | Conserved helix-loop-helix ubiquitous kinase                               |
| B05      | Rn.2953   | NM_053304    | Col1a1  | Collagen, type I, alpha 1                                                  |
| B06      | Rn.90061  | NM_031017    | Creb1   | CAMP responsive element binding protein 1                                  |
| B07      | Rn.4231   | NM_053824    | Csnk2a1 | Casein kinase 2, alpha 1 polypeptide                                       |
| B08      | Rn.137692 | NM_031021    | Csnk2b  | Casein kinase 2, beta polypeptide                                          |
| B09      | Rn.98260  | NM_053769    | Dusp1   | Dual specificity phosphatase 1                                             |
| B10      | Rn.4313   | NM_053883    | Dusp6   | Dual specificity phosphatase 6                                             |
| B11      | Rn.6075   | NM_012842    | Egf     | Epidermal growth factor                                                    |
| B12      | Rn.37227  | NM_031507    | Egfr    | Epidermal growth factor receptor                                           |
| C01      | Rn.9096   | NM_012551    | Egr1    | Early growth response 1                                                    |
| C02      | Rn.11275  | NM_053974    | Eif4e   | Eukaryotic translation initiation factor 4E                                |
| C03      | Rn.123609 | XM_232499    | Eps8    | Epidermal growth factor receptor pathway substrate 8                       |
| C04      | Rn.9725   | NM_012908    | Faslg   | Fas ligand (TNF superfamily, member 6)                                     |
| C05      | Rn.1604   | NM_019143    | Fn1     | Fibronectin 1                                                              |
| C06      | Rn.103750 | NM_022197    | Fos     | FBJ osteosarcoma oncogene                                                  |
| C07      | Rn.24593  | NM_001106395 | Foxo3   | Forkhead box O3                                                            |
| C08      | Rn.1725   | NM_001108444 | Gab1    | GRB2-associated protein 1                                                  |
| C09      | Rn.3360   | NM_030846    | Grb2    | Growth factor receptor bound protein 2                                     |
| C10      | Rn.36807  | NM_017344    | Gsk3a   | Glycogen synthase kinase 3 alpha                                           |
| C11      | Rn.10426  | NM_032080    | Gsk3b   | Glycogen synthase kinase 3 beta                                            |
| C12      | Rn.10148  | NM_012945    | Hbegf   | Heparin-binding EGF-like growth factor                                     |
| D01      | Rn.102180 | NM_001098241 | Hras    | Harvey rat sarcoma virus oncogene                                          |
| D02      | Rn.19222  | NM_053355    | Ikbbk   | Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta |
| D03      | Rn.9871   | NM_053836    | Il2     | Interleukin 2                                                              |
| D04      | Rn.90191  | NM_053466    | Jak1    | Janus kinase 1                                                             |
| D05      | Rn.93714  | NM_021835    | Jun     | Jun oncogene                                                               |
| D06      | Rn.30029  | NM_145095    | Kcnh8   | Potassium voltage-gated channel, subfamily H (eag-related), member 8       |
| D07      | Rn.24554  | NM_031515    | Kras    | V-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog                       |
| D08      | Rn.160577 | NM_080769    | Lta     | Lymphotoxin alpha (TNF superfamily, member 1)                              |
| D09      | Rn.5850   | NM_031643    | Map2k1  | Mitogen activated protein kinase kinase 1                                  |

| Position | UniGene   | GenBank      | Symbol  | Description                                                                                     |
|----------|-----------|--------------|---------|-------------------------------------------------------------------------------------------------|
| D10      | Rn.198875 | NM_001030023 | Map2k4  | Mitogen activated protein kinase kinase 4                                                       |
| D11      | Rn.162081 | NM_001025425 | Map2k7  | Mitogen activated protein kinase kinase 7                                                       |
| D12      | Rn.213212 | NM_138503    | Map3k2  | Mitogen activated protein kinase kinase kinase 2                                                |
| E01      | Rn.34914  | NM_053842    | Mapk1   | Mitogen activated protein kinase 1                                                              |
| E02      | Rn.9911   | NM_012806    | Mapk10  | Mitogen activated protein kinase 10                                                             |
| E03      | Rn.2592   | NM_017347    | Mapk3   | Mitogen activated protein kinase 3                                                              |
| E04      | Rn.4090   | XM_341399    | Mapk8   | Mitogen-activated protein kinase 8                                                              |
| E05      | Rn.9910   | NM_017322    | Mapk9   | Mitogen-activated protein kinase 9                                                              |
| E06      | Rn.7910   | NM_001044267 | Mknk1   | MAP kinase-interacting serine/threonine kinase 1                                                |
| E07      | Rn.10282  | NM_012864    | Mmp7    | Matrix metalloproteinase 7                                                                      |
| E08      | Rn.9067   | NM_001108216 | Nck2    | NCK adaptor protein 2                                                                           |
| E09      | Rn.217507 | NM_001108447 | Nfatc3  | Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 3                       |
| E10      | Rn.2411   | XM_342346    | Nfkb1   | Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1                            |
| E11      | Rn.217722 | NM_080766    | Nras    | Neuroblastoma ras oncogene                                                                      |
| E12      | Rn.54450  | NM_023098    | Nup62   | Nucleoporin 62                                                                                  |
| F01      | Rn.10999  | NM_012801    | Pdgfa   | Platelet-derived growth factor alpha polypeptide                                                |
| F02      | Rn.198230 | NM_031524    | Pdgfb   | Platelet-derived growth factor beta polypeptide (simian sarcoma viral (v-sis) oncogene homolog) |
| F03      | Rn.55127  | NM_012802    | Pdgfra  | Platelet derived growth factor receptor, alpha polypeptide                                      |
| F04      | Rn.10905  | NM_031081    | Pdpk1   | 3-phosphoinositide dependent protein kinase-1                                                   |
| F05      | Rn.44193  | NM_133399    | Pik3ca  | Phosphoinositide-3-kinase, catalytic, alpha polypeptide                                         |
| F06      | Rn.10599  | NM_013005    | Pik3r1  | Phosphoinositide-3-kinase, regulatory subunit 1 (alpha)                                         |
| F07      | Rn.22497  | NM_022185    | Pik3r2  | Phosphoinositide-3-kinase, regulatory subunit 2 (beta)                                          |
| F08      | Rn.107102 | NM_013151    | Plat    | Plasminogen activator, tissue                                                                   |
| F09      | Rn.11243  | NM_013187    | Plcg1   | Phospholipase C, gamma 1                                                                        |
| F10      | Rn.1271   | NM_017039    | Ppp2ca  | Protein phosphatase 2, catalytic subunit, alpha isoform                                         |
| F11      | Rn.207908 | NM_001105713 | Prkca   | Protein kinase C, alpha                                                                         |
| F12      | Rn.22158  | NM_031606    | Pten    | Phosphatase and tensin homolog                                                                  |
| G01      | Rn.33262  | NM_012639    | Raf1    | V-raf-leukemia viral oncogene 1                                                                 |
| G02      | Rn.106321 | NM_001005765 | Rap1a   | RAP1A, member of RAS oncogene family                                                            |
| G03      | Rn.12223  | NM_013135    | Rasa1   | RAS p21 protein activator (GTPase activating protein) 1                                         |
| G04      | Rn.107401 | NM_057132    | Rhoa    | Ras homolog gene family, member A                                                               |
| G05      | Rn.8940   | NM_001108048 | Rps6ka5 | Ribosomal protein S6 kinase, polypeptide 5                                                      |
| G06      | Rn.4042   | NM_031985    | Rps6kb1 | Ribosomal protein S6 kinase, polypeptide 1                                                      |
| G07      | Rn.138818 | NM_053517    | Shc1    | SHC (Src homology 2 domain containing) transforming protein 1                                   |
| G08      | Rn.112600 | NM_031977    | Src     | V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)                               |
| G09      | Rn.33229  | NM_032612    | Stat1   | Signal transducer and activator of transcription 1                                              |
| G10      | Rn.10247  | NM_012747    | Stat3   | Signal transducer and activator of transcription 3                                              |
| G11      | Rn.154399 | NM_017064    | Stat5a  | Signal transducer and activator of transcription 5A                                             |
| G12      | Rn.54443  | NM_030989    | Tp53    | Tumor protein p53                                                                               |
| 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, 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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