# RT² Profiler PCR Array (Rotor-Gene® Format)

# Mouse Fibrosis

### Cat. no. 330231 PAMM-120ZR

### For pathway expression analysis

| Format | For use with the following real-time cyclers |
|---|---|
| RT² Profiler PCR Array, Format R | Rotor-Gene Q, other Rotor-Gene cyclers |

## Description

The Mouse Fibrosis RT² Profiler PCR Array profiles the expression of 84 key genes involved in dysregulated tissue remodeling during the repair and healing of wounds. Wound healing consists of three phases: inflammation, granulation and tissue remodeling. During tissue remodeling, apoptosis removes myofibroblasts, and the deposited extracellular matrix (ECM) is remodeled to resemble the original tissue. Fibrosis occurs when inappropriate tissue remodeling results in excess ECM deposition due to inappropriate survival of myofibroblasts or lack of ECM proteolytic degradation. The inflammation and enhanced TGFß signaling often present in fibrotic tissues causes cells to differentiate into myofibroblasts via epithelial-to-mesenchymal transition (EMT). On the other side of the spectrum, chronic wounds feature dysregulated tissue remodeling with enhanced ECM degradation. This array contains genes encoding ECM remodeling enzymes, TGFß signaling molecules and inflammatory cytokines, as well as additional genes important for fibrosis. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in fibrosis and chronic wounds with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

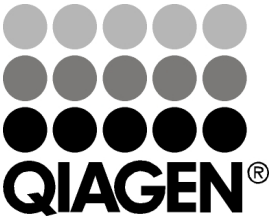
## Shipping and storage

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.




Sample & Assay Technologies

## 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 | Mm.213025 | NM_007392 | Acta2 | Actin, alpha 2, smooth muscle, aorta |
| A02 | Mm.301626 | NM_007428 | Agt | Angiotensinogen (serpin peptidase inhibitor, clade A, member 8) |
| A03 | Mm.6645 | NM_009652 | Akt1 | Thymoma viral proto-oncogene 1 |
| A04 | Mm.257460 | NM_009741 | Bcl2 | B-cell leukemia/lymphoma 2 |
| A05 | Mm.595 | NM_007557 | Bmp7 | Bone morphogenetic protein 7 |
| A06 | Mm.28278 | NM_007616 | Cav1 | Caveolin 1, caveolae protein |
| A07 | Mm.4686 | NM_011330 | Ccl11 | Chemokine (C-C motif) ligand 11 |
| A08 | Mm.867 | NM_011331 | Ccl12 | Chemokine (C-C motif) ligand 12 |
| A09 | Mm.1282 | NM_011337 | Ccl3 | Chemokine (C-C motif) ligand 3 |
| A10 | Mm.6272 | NM_009915 | Ccr2 | Chemokine (C-C motif) receptor 2 |
| A11 | Mm.439656 | NM_009883 | Cebpb | CCAAT/enhancer binding protein (C/EBP), beta |
| A12 | Mm.277792 | NM_007743 | Col1a2 | Collagen, type I, alpha 2 |
| B01 | Mm.249555 | NM_009930 | Col3a1 | Collagen, type III, alpha 1 |
| B02 | Mm.390287 | NM_010217 | Ctgf | Connective tissue growth factor |
| B03 | Mm.1401 | NM_009911 | Cxcr4 | Chemokine (C-X-C motif) receptor 4 |
| B04 | Mm.56769 | NM_007833 | Dcn | Decorin |
| B05 | Mm.14543 | NM_010104 | Edn1 | Endothelin 1 |
| B06 | Mm.252481 | NM_010113 | Egf | Epidermal growth factor |
| B07 | Mm.225297 | NM_007932 | Eng | Endoglin |
| B08 | Mm.3355 | NM_010177 | Fasl | Fas ligand (TNF superfamily, member 6) |
| B09 | Mm.166318 | NM_011824 | Grem1 | Gremlin 1 |
| B10 | Mm.267078 | NM_010427 | Hgf | Hepatocyte growth factor |
| B11 | Mm.240327 | NM_008337 | Ifng | Interferon gamma |
| B12 | Mm.874 | NM_010548 | Il10 | Interleukin 10 |
| C01 | Mm.1284 | NM_008355 | Il13 | Interleukin 13 |
| C02 | Mm.368330 | NM_008356 | Il13ra2 | Interleukin 13 receptor, alpha 2 |
| C03 | Mm.15534 | NM_010554 | Il1a | Interleukin 1 alpha |
| C04 | Mm.222830 | NM_008361 | Il1b | Interleukin 1 beta |
| C05 | Mm.276360 | NM_021283 | Il4 | Interleukin 4 |
| C06 | Mm.4461 | NM_010558 | Il5 | Interleukin 5 |
| C07 | Mm.274846 | NM_010562 | Ilk | Integrin linked kinase |
| C08 | Mm.3510 | NM_008382 | Inhbe | Inhibin beta E |
| C09 | Mm.482186 | NM_001033228 | Itga1 | Integrin alpha 1 |
| C10 | Mm.5007 | NM_008396 | Itga2 | Integrin alpha 2 |
| C11 | Mm.57035 | NM_013565 | Itga3 | Integrin alpha 3 |
| C12 | Mm.227 | NM_008402 | Itgav | Integrin alpha V |
| D01 | Mm.263396 | NM_010578 | Itgb1 | Integrin beta 1 (fibronectin receptor beta) |
| D02 | Mm.87150 | NM_016780 | Itgb3 | Integrin beta 3 |
| D03 | Mm.6424 | NM_010580 | Itgb5 | Integrin beta 5 |
| D04 | Mm.98193 | NM_021359 | Itgb6 | Integrin beta 6 |
| D05 | Mm.217000 | NM_177290 | Itgb8 | Integrin beta 8 |
| D06 | Mm.275071 | NM_010591 | Jun | Jun oncogene |
| D07 | Mm.172 | NM_010728 | Lox | Lysyl oxidase |
| D08 | Mm.269747 | NM_019919 | Ltbp1 | Latent transforming growth factor beta binding protein 1 |
| D09 | Mm.5022 | NM_008607 | Mmp13 | Matrix metallopeptidase 13 |
| D10 | Mm.280175 | NM_008608 | Mmp14 | Matrix metallopeptidase 14 (membrane-inserted) |
| D11 | Mm.156952 | NM_032006 | Mmp1a | Matrix metallopeptidase 1a (interstitial collagenase) |
| D12 | Mm.29564 | NM_008610 | Mmp2 | Matrix metallopeptidase 2 |
| E01 | Mm.4993 | NM_010809 | Mmp3 | Matrix metallopeptidase 3 |
| E02 | Mm.16415 | NM_008611 | Mmp8 | Matrix metallopeptidase 8 |
| E03 | Mm.4406 | NM_013599 | Mmp9 | Matrix metallopeptidase 9 |
| E04 | Mm.2444 | NM_010849 | Myc | Myelocytomatosis oncogene |
| E05 | Mm.256765 | NM_008689 | Nfkb1 | Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105 |
| E06 | Mm.2675 | NM_008808 | Pdgfa | Platelet derived growth factor, alpha |
| E07 | Mm.144089 | NM_011057 | Pdgfb | Platelet derived growth factor, B polypeptide |
| E08 | Mm.154660 | NM_008872 | Plat | Plasminogen activator, tissue |
| E09 | Mm.4183 | NM_008873 | Plau | Plasminogen activator, urokinase |

| Position | UniGene | GenBank | Symbol | Description |
|---|---|---|---|---|
| E10 | Mm.971 | NM_008877 | Plg | Plasminogen |
| E11 | Mm.439692 | NM_009243 | Serpina1a | Serine (or cysteine) peptidase inhibitor, clade A, member 1a |
| E12 | Mm.250422 | NM_008871 | Serpine1 | Serine (or cysteine) peptidase inhibitor, clade E, member 1 |
| F01 | Mm.22708 | NM_009825 | Serpinh1 | Serine (or cysteine) peptidase inhibitor, clade H, member 1 |
| F02 | Mm.391091 | NM_010754 | Smad2 | MAD homolog 2 (Drosophila) |
| F03 | Mm.7320 | NM_016769 | Smad3 | MAD homolog 3 (Drosophila) |
| F04 | Mm.100399 | NM_008540 | Smad4 | MAD homolog 4 (Drosophila) |
| F05 | Mm.325757 | NM_008542 | Smad6 | MAD homolog 6 (Drosophila) |
| F06 | Mm.34407 | NM_001042660 | Smad7 | MAD homolog 7 (Drosophila) |
| F07 | Mm.2093 | NM_011427 | Snai1 | Snail homolog 1 (Drosophila) |
| F08 | Mm.4618 | NM_013672 | Sp1 | Trans-acting transcription factor 1 |
| F09 | Mm.277406 | NM_009283 | Stat1 | Signal transducer and activator of transcription 1 |
| F10 | Mm.121721 | NM_009284 | Stat6 | Signal transducer and activator of transcription 6 |
| F11 | Mm.248380 | NM_011577 | Tgfb1 | Transforming growth factor, beta 1 |
| F12 | Mm.18213 | NM_009367 | Tgfb2 | Transforming growth factor, beta 2 |
| G01 | Mm.3992 | NM_009368 | Tgfb3 | Transforming growth factor, beta 3 |
| G02 | Mm.197552 | NM_009370 | Tgfbr1 | Transforming growth factor, beta receptor I |
| G03 | Mm.172346 | NM_009371 | Tgfbr2 | Transforming growth factor, beta receptor II |
| G04 | Mm.101034 | NM_009372 | Tgif1 | TGFB-induced factor homeobox 1 |
| G05 | Mm.4159 | NM_011580 | Thbs1 | Thrombospondin 1 |
| G06 | Mm.26688 | NM_011581 | Thbs2 | Thrombospondin 2 |
| G07 | Mm.8245 | NM_011593 | Timp1 | Tissue inhibitor of metalloproteinase 1 |
| G08 | Mm.206505 | NM_011594 | Timp2 | Tissue inhibitor of metalloproteinase 2 |
| G09 | Mm.4871 | NM_011595 | Timp3 | Tissue inhibitor of metalloproteinase 3 |
| G10 | Mm.255607 | NM_080639 | Timp4 | Tissue inhibitor of metalloproteinase 4 |
| G11 | Mm.1293 | NM_013693 | Tnf | Tumor necrosis factor |
| G12 | Mm.282184 | NM_009505 | Vegfa | Vascular endothelial growth factor A |
| H01 | Mm.328431 | NM_007393 | Actb | Actin, beta |
| H02 | Mm.163 | NM_009735 | B2m | Beta-2 microglobulin |
| H03 | Mm.343110 | NM_008084 | Gapdh | Glyceraldehyde-3-phosphate dehydrogenase |
| H04 | Mm.3317 | NM_010368 | Gusb | Glucuronidase, beta |
| H05 | Mm.2180 | NM_008302 | Hsp90ab1 | Heat shock protein 90 alpha (cytosolic), class B member 1 |
| H06 | N/A | SA_00106 | MGDC | Mouse 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 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.

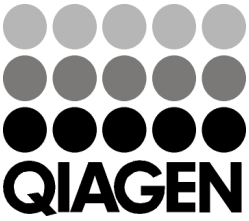
RT² Profiler PCR Array products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

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