

# QuantiNova® LNA® PCR Focus Panels (Rotor-Gene® Format)

## Rat Epithelial to Mesenchymal Transition (EMT)

Cat. no. 249950 SBRN-090ZR

For study focus gene expression analysis

### Shipping and storage

QuantiNova LNA PCR Focus Panels are shipped at ambient temperature. Immediately upon receipt, they should be stored at 2–8°C for short term storage or at –30°C to –15°C for long time storage. Under these conditions, all components are stable for at least 12 months.

**Note:** Open the package and store the products appropriately immediately upon receipt.

For optimal performance, QuantiNova LNA PCR Focus Panels should be used together with the QuantiNova Reverse Transcription Kit for cDNA synthesis and the QuantiNova SYBR® Green PCR Kit (Mastermix) for PCR.

### Panel layout (Rotor-Gene): QuantiNova LNA PCR Focus Panel

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. Refer to the QuantiNova LNA PCR System Handbook at [www.qiagen.com](http://www.qiagen.com) for further details.

|   | 1      | 2        | 3       | 4            | 5       | 6      | 7        | 8      | 9      | 10     | 11     | 12     |
|---|--------|----------|---------|--------------|---------|--------|----------|--------|--------|--------|--------|--------|
| A | Ahnak  | Akt1     | Bmp7    | Cald1        | Camk2n1 | Cav2   | Cdh1     | Cdh2   | Col1a2 | Col3a1 | Col5a2 | Ccn2   |
| B | Clnnb1 | Dsc2     | Dsp     | Egfr         | Erb3    | Esr1   | F11r     | Fgfbp1 | Fgfr2  | Fkbp1a | Fn1    | Foxc2  |
| C | Fzd7   | Gng11    | Gsc     | Gsk3b        | Igf1bp4 | Il1rn  | Ilk      | Itga5  | Itgav  | Itgb1  | Jag1   | Krt14  |
| D | Krt19  | Krt7     | Map1b   | Mitf         | Mmp2    | Mmp3   | Mmp9     | Msn    | Nodal  | Notch1 | Ocin   | Pdgfrb |
| E | Plek2  | Ppp3r1   | Plk2    | LOC100365697 | Rac1    | Rgs2   | Serpine1 | Gemin2 | Smad2  | Snai1  | Snai2  | Snai3  |
| F | Sox10  | Sparc    | Spp1    | Stat3        | Steap1  | Tcf7l1 | Tcf4     | Tfpi2  | Tgfb1  | Tgfb2  | Tgfb3  | Timp1  |
| G | Tmeff1 | Tmem132a | Tspan13 | Twist1       | Vcan    | Vim    | Vps13a   | Wnt11  | Wnt5a  | Wnt5b  | Zeb1   | Zeb2   |
| H | Actb   | B2m      | Hprt1   | Ldha         | Rplp1   | RGDC   | QIC      | QIC    | QIC    | PPC    | PPC    | PPC    |

## Gene table: QuantiNova LNA PCR Focus Panel

| Position | Assay      | Name                 | Symbol  | Ensembl ID        | Description                                                                             |
|----------|------------|----------------------|---------|-------------------|-----------------------------------------------------------------------------------------|
| A01      | SBR1120387 | ENSRNOT00000088387.1 | Ahnak   | ENSRNOG0000057569 | AHNAK nucleoprotein Source RGD Symbol Acc 619779                                        |
| A02      | SBR1163078 | ENSRNOT00000031164.3 | Akt1    | ENSRNOG0000028629 | AKT serine/threonine kinase 1 Source RGD Symbol Acc 2081                                |
| A03      | SBR1093977 | ENSRNOT00000084990.1 | Bmp7    | ENSRNOG0000053384 | bone morphogenetic protein 7 Source RGD Symbol Acc 620743                               |
| A04      | SBR1164974 | ENSRNOT00000041264.3 | Cald1   | ENSRNOG0000010233 | caldesmon 1 Source RGD Symbol Acc 2256                                                  |
| A05      | SBR1167828 | ENSRNOT00000021864.2 | Camk2n1 | ENSRNOG0000016322 | calcium/calmodulin-dependent protein kinase II inhibitor 1 Source RGD Symbol Acc 708430 |
| A06      | SBR1201369 | ENSRNOT00000080271.1 | Cav2    | ENSRNOG0000057713 | caveolin 2 Source RGD Symbol Acc 620348                                                 |
| A07      | SBR1170192 | ENSRNOT00000027346.2 | Cdh1    | ENSRNOG0000020151 | cadherin 1 Source RGD Symbol Acc 69279                                                  |
| A08      | SBR1148414 | ENSRNOT00000021170.6 | Cdh2    | ENSRNOG0000015602 | cadherin 2 Source RGD Symbol Acc 69280                                                  |
| A09      | SBR1097834 | ENSRNOT00000089292.1 | Col1a2  | ENSRNOG0000011292 | collagen type I alpha 2 chain Source RGD Symbol Acc 621351                              |
| A10      | SBR1150486 | ENSRNOT00000004956.4 | Col3a1  | ENSRNOG0000003357 | collagen type III alpha 1 chain Source RGD Symbol Acc 71029                             |
| A11      | SBR1216685 | ENSRNOT00000005073.7 | Col5a2  | ENSRNOG0000003736 | collagen type V alpha 2 chain Source RGD Symbol Acc 70921                               |
| A12      | SBR1133606 | ENSRNOT00000089196.1 | Ccn2    | ENSRNOG0000015036 | cellular communication network factor 2 Source RGD Symbol Acc 621392                    |
| B01      | SBR1143136 | ENSRNOT00000079085.1 | Ctnnb1  | ENSRNOG0000054172 | catenin beta 1 Source RGD Symbol Acc 70487                                              |
| B02      | SBR1154049 | ENSRNOT00000082891.1 | Dsc2    | ENSRNOG0000039969 | desmocollin 2 Source RGD Symbol Acc 1309426                                             |
| B03      | SBR1121361 | ENSRNOT00000018649.6 | Dsp     | ENSRNOG0000013928 | desmoplakin Source RGD Symbol Acc 1305794                                               |
| B04      | SBR1196436 | ENSRNOT00000006087.2 | Egfr    | ENSRNOG0000004332 | epidermal growth factor receptor Source RGD Symbol Acc 2543                             |
| B05      | SBR1153467 | ENSRNOT00000006796.4 | ErbB3   | ENSRNOG0000004964 | erb-b2 receptor tyrosine kinase 3 Source RGD Symbol Acc 69323                           |
| B06      | SBR1147622 | ENSRNOT00000081017.1 | Esr1    | ENSRNOG0000019358 | estrogen receptor 1 Source RGD Symbol Acc 2581                                          |
| B07      | SBR1115759 | ENSRNOT00000006141.5 | F11r    | ENSRNOG0000004414 | F11 receptor Source RGD Symbol Acc 621842                                               |
| B08      | SBR1152738 | ENSRNOT00000004128.4 | Fgfbp1  | ENSRNOG0000003095 | fibroblast growth factor binding protein 1 Source RGD Symbol Acc 621211                 |
| B09      | SBR1189435 | ENSRNOT00000022253.6 | Fgfr2   | ENSRNOG0000016374 | fibroblast growth factor receptor 2 Source RGD Symbol Acc 2611                          |
| B10      | SBR1094802 | ENSRNOT00000012608.4 | Fkbp1a  | ENSRNOG0000008822 | FKBP prolyl isomerase 1A Source RGD Symbol Acc 2617                                     |
| B11      | SBR1178912 | ENSRNOT00000019772.6 | Fn1     | ENSRNOG0000014288 | fibronectin 1 Source RGD Symbol Acc 2624                                                |
| B12      | SBR1124840 | ENSRNOT00000072369.1 | Foxc2   | ENSRNOG0000047446 | forkhead box C2 Source RGD Symbol Acc 621703                                            |
| C01      | SBR1124398 | ENSRNOT00000021569.6 | Fzd7    | ENSRNOG0000016119 | frizzled class receptor 7 Source RGD Symbol Acc 2321905                                 |
| C02      | SBR1209692 | ENSRNOT00000075326.2 | Gng11   | ENSRNOG0000047914 | G protein subunit gamma 11 Source RGD Symbol Acc 621515                                 |
| C03      | SBR1202297 | ENSRNOT00000014204.5 | Gsc     | ENSRNOG0000010605 | goosecoid homeobox Source RGD Symbol Acc 631425                                         |
| C04      | SBR1155736 | ENSRNOT00000077612.1 | Gsk3b   | ENSRNOG0000002833 | glycogen synthase kinase 3 beta Source RGD Symbol Acc 70982                             |
| C05      | SBR1191354 | ENSRNOT00000014153.7 | Igfbp4  | ENSRNOG0000010635 | insulin-like growth factor binding protein 4 Source RGD Symbol Acc 2875                 |
| C06      | SBR1111330 | ENSRNOT00000007949.6 | Il1rn   | ENSRNOG0000005871 | interleukin 1 receptor antagonist Source RGD Symbol Acc 621159                          |
| C07      | SBR1108626 | ENSRNOT00000025906.4 | Ilk     | ENSRNOG0000018993 | integrin-linked kinase Source RGD Symbol Acc 620063                                     |
| C08      | SBR1211134 | ENSRNOT00000087748.1 | Itga5   | ENSRNOG0000057451 | integrin subunit alpha 5 Source RGD Symbol Acc 2925                                     |
| C09      | SBR1162857 | ENSRNOT00000006961.7 | Itgav   | ENSRNOG0000004912 | integrin subunit alpha V Source RGD Symbol Acc 1310613                                  |
| C10      | SBR1105686 | ENSRNOT00000014785.5 | Itgb1   | ENSRNOG0000010966 | integrin subunit beta 1 Source RGD Symbol Acc 2927                                      |
|          |            | ENSRNOT000000        |         | ENSRNOG00         |                                                                                         |

| Position | Assay      | Name                 | Symbol       | Ensembl ID         | Description                                                                    |
|----------|------------|----------------------|--------------|--------------------|--------------------------------------------------------------------------------|
| C11      | SBR1173778 | 010638.7             | Jag1         | 000007443          | jagged 1 Source RGD Symbol Acc 2937                                            |
| C12      | SBR1106051 | ENSRNOT00000083895.1 | Krt14        | ENSRNOG0000003899  | keratin 14 Source RGD Symbol Acc 1307463                                       |
| D01      | SBR1178187 | ENSRNOT00000019133.4 | Krt19        | ENSRNOG00000014233 | keratin 19 Source RGD Symbol Acc 619936                                        |
| D02      | SBR1116967 | ENSRNOT00000087481.1 | Krt7         | ENSRNOG0000008057  | keratin 7 Source RGD Symbol Acc 1310865                                        |
| D03      | SBR1178863 | ENSRNOT00000023460.5 | Map1b        | ENSRNOG00000017428 | microtubule-associated protein 1B Source RGD Symbol Acc 3043                   |
| D04      | SBR1115783 | ENSRNOT00000083127.1 | Mitf         | ENSRNOG0000008658  | melanocyte inducing transcription factor Source RGD Symbol Acc 3092            |
| D05      | SBR1120605 | ENSRNOT00000022679.6 | Mmp2         | ENSRNOG0000016695  | matrix metallopeptidase 2 Source RGD Symbol Acc 621316                         |
| D06      | SBR1166091 | ENSRNOT00000091704.1 | Mmp3         | ENSRNOG0000032626  | matrix metallopeptidase 3 Source RGD Symbol Acc 621317                         |
| D07      | SBR1206750 | ENSRNOT00000023965.3 | Mmp9         | ENSRNOG0000017539  | matrix metallopeptidase 9 Source RGD Symbol Acc 621320                         |
| D08      | SBR1151055 | ENSRNOT00000093499.1 | Msn          | ENSRNOG0000030118  | moesin Source RGD Symbol Acc 621260                                            |
| D09      | SBR1149225 | ENSRNOT00000000672.4 | Nodal        | ENSRNOG0000000556  | nodal growth differentiation factor Source RGD Symbol Acc 1305994              |
| D10      | SBR1183596 | ENSRNOT00000026212.7 | Notch1       | ENSRNOG0000019322  | notch 1 Source RGD Symbol Acc 3187                                             |
| D11      | SBR1197094 | ENSRNOT00000084667.1 | Ocln         | ENSRNOG0000018297  | occludin Source RGD Symbol Acc 620089                                          |
| D12      | SBR1100630 | ENSRNOT00000086033.1 | Pdgfrb       | ENSRNOG0000018461  | platelet derived growth factor receptor beta Source RGD Symbol Acc 3285        |
| E01      | SBR1213739 | ENSRNOT00000014125.5 | Plek2        | ENSRNOG0000010098  | pleckstrin 2 Source RGD Symbol Acc 1305786                                     |
| E02      | SBR1206879 | ENSRNOT00000031275.6 | Ppp3r1       | ENSRNOG0000043210  | protein phosphatase 3, regulatory subunit B, alpha Source RGD Symbol Acc 69230 |
| E03      | SBR1118067 | ENSRNOT00000079599.1 | Plk2         | ENSRNOG0000007916  | protein tyrosine kinase 2 Source RGD Symbol Acc 3443                           |
| E04      | SBR1212863 | ENSRNOT00000016237.3 | LOC100365697 | ENSRNOG0000011771  | protein tyrosine phosphatase type IVA 1 Source RGD Symbol Acc 9374124          |
| E05      | SBR1123146 | ENSRNOT00000001417.5 | Rac1         | ENSRNOG0000001068  | Rac family small GTPase 1 Source RGD Symbol Acc 619755                         |
| E06      | SBR1199490 | ENSRNOT00000005156.6 | Rgs2         | ENSRNOG0000003687  | regulator of G-protein signaling 2 Source RGD Symbol Acc 621665                |
| E07      | SBR1126485 | ENSRNOT00000001916.2 | Serpine1     | ENSRNOG0000001414  | serpin family E member 1 Source RGD Symbol Acc 3249                            |
| E08      | SBR1207884 | ENSRNOT00000006137.5 | Gemin2       | ENSRNOG0000004360  | gem (nuclear organelle) associated protein 2 Source RGD Symbol Acc 620842      |
| E09      | SBR1164397 | ENSRNOT00000046847.4 | Smad2        | ENSRNOG0000018140  | SMAD family member 2 Source RGD Symbol Acc 3031                                |
| E10      | SBR1162553 | ENSRNOT00000077581.1 | Snai1        | ENSRNOG0000009594  | snail family transcriptional repressor 1 Source RGD Symbol Acc 620758          |
| E11      | SBR1127823 | ENSRNOT00000073049.2 | Snai2        | ENSRNOG0000047699  | snail family transcriptional repressor 2 Source RGD Symbol Acc 3722            |
| E12      | SBR1209759 | ENSRNOT00000018387.6 | Snai3        | ENSRNOG0000013586  | snail family transcriptional repressor 3 Source RGD Symbol Acc 1309658         |
| F01      | SBR1171560 | ENSRNOT00000015283.3 | Sox10        | ENSRNOG0000011305  | SRY box 10 Source RGD Symbol Acc 3735                                          |
| F02      | SBR1136268 | ENSRNOT00000017486.7 | Sparc        | ENSRNOG0000012840  | secreted protein acidic and cysteine rich Source RGD Symbol Acc 3742           |
| F03      | SBR1210860 | ENSRNOT00000075989.1 | Spp1         | ENSRNOG0000043451  | secreted phosphoprotein 1 Source RGD Symbol Acc 3752                           |
| F04      | SBR1138417 | ENSRNOT00000026760.4 | Stat3        | ENSRNOG0000019742  | signal transducer and activator of transcription 3 Source RGD Symbol Acc 3772  |
| F05      | SBR1171557 | ENSRNOT00000000018.7 | Steap1       | ENSRNOG0000000017  | STEAP family member 1 Source RGD Symbol Acc 1311543                            |
| F06      | SBR1154852 | ENSRNOT00000020005.7 | Tcf7l1       | ENSRNOG0000014753  | transcription factor 7 like 1 Source RGD Symbol Acc 1311671                    |
| F07      | SBR1134900 | ENSRNOT00000081797.1 | Tcf4         | ENSRNOG0000012405  | transcription factor 4 Source RGD Symbol Acc 69271                             |
| F08      | SBR1190870 | ENSRNOT00000013989.3 | Tfpi2        | ENSRNOG0000010513  | tissue factor pathway inhibitor 2 Source RGD Symbol Acc 628629                 |
| F09      | SBR1143485 | ENSRNOT00000028051.4 | Tgfb1        | ENSRNOG0000020652  | transforming growth factor, beta 1 Source RGD Symbol Acc 69051                 |
| F10      | SBR1164140 | ENSRNOT00000087023.1 | Tgfb2        | ENSRNOG0000002418  | transforming growth factor, beta 2 Source RGD Symbol Acc 70491                 |

| Position | Assay      | Name                 | Symbol   | Ensembl ID        | Description                                                                                        |
|----------|------------|----------------------|----------|-------------------|----------------------------------------------------------------------------------------------------|
| F11      | SBR1115193 | ENSRNOT00000013516.5 | Tgfb3    | ENSRNOG0000009867 | transforming growth factor, beta 3 Source RGD Symbol Acc 3851                                      |
| F12      | SBR1154276 | ENSRNOT00000013745.7 | Timp1    | ENSRNOG0000010208 | TIMP metalloproteinase inhibitor 1 Source RGD Symbol Acc 621675                                    |
| G01      | SBR1193253 | ENSRNOT00000065775.2 | Tmeff1   | ENSRNOG0000008034 | transmembrane protein with EGF-like and two follistatin-like domains 1 Source RGD Symbol Acc 62005 |
| G02      | SBR1094846 | ENSRNOT00000028971.4 | Tmem132a | ENSRNOG0000021338 | transmembrane protein 132A Source RGD Symbol Acc 727936                                            |
| G03      | SBR1179208 | ENSRNOT00000006752.5 | Tspan13  | ENSRNOG0000005046 | tetraspanin 13 Source RGD Symbol Acc 1311788                                                       |
| G04      | SBR1200999 | ENSRNOT00000014763.6 | Twist1   | ENSRNOG0000011101 | twist family bHLH transcription factor 1 Source RGD Symbol Acc 621455                              |
| G05      | SBR1171946 | ENSRNOT00000063821.3 | Vcan     | ENSRNOG0000029212 | versican Source RGD Symbol Acc 619940                                                              |
| G06      | SBR1197523 | ENSRNOT00000024430.5 | Vim      | ENSRNOG0000018087 | vimentin Source RGD Symbol Acc 621646                                                              |
| G07      | SBR1206236 | ENSRNOT00000014800.7 | Vps13a   | ENSRNOG0000025539 | vacuolar protein sorting 13 homolog A Source RGD Symbol Acc 1311340                                |
| G08      | SBR1196784 | ENSRNOT00000021674.5 | Wnt11    | ENSRNOG0000015982 | Wnt family member 11 Source RGD Symbol Acc 621463                                                  |
| G09      | SBR1212833 | ENSRNOT00000021164.3 | Wnt5a    | ENSRNOG0000015618 | Wnt family member 5A Source RGD Symbol Acc 69250                                                   |
| G10      | SBR1206664 | ENSRNOT00000011044.4 | Wnt5b    | ENSRNOG0000008168 | Wnt family member 5B Source RGD Symbol Acc 628850                                                  |
| G11      | SBR1125137 | ENSRNOT00000046013.4 | Zeb1     | ENSRNOG0000017863 | zinc finger E-box binding homeobox 1 Source RGD Symbol Acc 3831                                    |
| G12      | SBR1104478 | ENSRNOT00000080382.1 | Zeb2     | ENSRNOG0000004677 | zinc finger E-box binding homeobox 2 Source RGD Symbol Acc 1307272                                 |
| H01      | SBR1220567 | ENSRNOT00000042459.4 | Actb     | ENSRNOG0000034254 | actin, beta Source RGD Symbol Acc 628837                                                           |
| H02      | SBR1220568 | ENSRNOT00000023017.5 | B2m      | ENSRNOG0000017123 | beta-2 microglobulin Source RGD Symbol Acc 2189                                                    |
| H03      | SBR1225377 | ENSRNOT00000065935.3 | Hprt1    | ENSRNOG0000048561 | hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826                                |
| H04      | SBR1122313 | ENSRNOT00000017468.2 | Ldha     | ENSRNOG0000013009 | lactate dehydrogenase A Source RGD Symbol Acc 2996                                                 |
| H05      | SBR1220572 | ENSRNOT00000018820.5 | Rplp1    | ENSRNOG0000013874 | ribosomal protein lateral stalk subunit P1 Source RGD Symbol Acc 621774                            |
| H06      | SBR1218555 | Sybr_RGDC            | RGDC     | Sybr_RGDC         | Rat Genomic DNA Contamination                                                                      |
| H07      | SBH1218551 | Sybr_QIC             | QIC      | Sybr_QIC          | QuantiNova Internal Control                                                                        |
| H08      | SBH1218551 | Sybr_QIC             | QIC      | Sybr_QIC          | QuantiNova Internal Control                                                                        |
| H09      | SBH1218551 | Sybr_QIC             | QIC      | Sybr_QIC          | QuantiNova Internal Control                                                                        |
| H10      | SBH1218550 | Sybr_PPC             | PPC      | Sybr_PPC          | Positive PCR Control                                                                               |
| H11      | SBH1218550 | Sybr_PPC             | PPC      | Sybr_PPC          | Positive PCR Control                                                                               |
| H12      | SBH1218550 | Sybr_PPC             | PPC      | Sybr_PPC          | Positive PCR Control                                                                               |



## Related products

| Product                                    | Contents                                                                                                                                                                                                                           | Cat. no. |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| QuantiNova LNA PCR QC Panel                | These panels are designed to assess the quality of RNA samples before characterization using QuantiNova LNA PCR Focus Panels; available in 96-well, 384-well, and Rotor-Disc 100 formats                                           | 249940   |
| QuantiNova Reverse Transcription Kit (10)* | For 10 x 20 µl reactions: 20 µl 8x gDNA Removal Mix, 10 µl Reverse Transcription Enzyme, 40 µl Reverse Transcription Mix (containing RT primers), 20 µl Internal Control RNA, 1.9 ml RNase-Free Water                              | 205410   |
| QuantiNova SYBR Green RT-PCR Kit (100)*    | For 100 x 20 µl reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 µl QuantiNova SYBR Green RT Mix, 20 µl Internal Control RNA, 500 µl Yellow Template Dilution Buffer, 250 µl ROX Reference Dye, 1.9 µl RNase-Free Water | 208152   |
| QuantiNova SYBR Green PCR Kit (100)*       | For 100 x 20 µl reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 µl QuantiNova Yellow Template Dilution Buffer, 250 µl QN ROX Reference Dye, 1.9 ml Water                                                              | 208052   |

\*Larger kit sizes available.

The QuantiNova LNA PCR Focus Panels are intended for molecular biology applications. These products are not intended for the diagnosis, prevention or treatment of a disease.

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