

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

## Mouse Tight Junctions

Cat. no. 249950 SBMM-143ZR

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 | Actn1  | Actn2  | Actn3  | Actn4  | Amotl1   | Arhgef2 | Ash1l  | Map3k20 | Cask   | Cldn20 | Cdc42   | Cdk4    |      |
| B | Cgn    | Cldn1  | Cldn10 | Cldn11 | Cldn12   | Cldn14  | Cldn15 | Cldn16  | Cldn17 | Cldn18 | Cldn19  | Cldn2   |      |
| C | Cldn3  | Cldn4  | Cldn5  | Cldn6  | Cldn7    | Cldn8   | Cldn9  | Crb1    | Crb3   | Ybx3   | Csnk2a1 | Csnk2a2 |      |
| D | Csnk2b | Cttna1 | Cttna2 | Cttna3 | Cttnb1   | Cttn    | Epb41  | Esam    | F11r   | Gnai1  | Hcls1   | Icam1   |      |
| E | Icam2  | Igsf5  | Ilk    | Patj   | Jam2     | Jam3    | Ligl1  | Ligl2   | Magi1  | Magi3  | Mark2   | Afdn    |      |
| F | Mpdz   | Mpp5   | Mpp6   | Ocln   | Pard3    | Pard6a  | Pard6b | Pecam1  | Prkci  | Prkcz  | Plen    | Rac1    |      |
| G | Rhoa   | Smurf1 | Spla1  | Sptan1 | Splb     | Sympk   | Tiam1  | Tjp1    | Tjp1   | Tjp1   | Tjp2    | Tjp3    | Vapa |
| H | Actb   | B2m    | Gapdh  | Gusb   | Hsp90ab1 | MGDC    | QIC    | QIC     | QIC    | PPC    | PPC     | PPC     |      |

## Gene table: QuantiNova LNA PCR Focus Panel

| Position | Assay      | Name                  | Symbol  | Ensembl ID        | Description   |
|----------|------------|-----------------------|---------|-------------------|---|
| A01      | SBM1073207 | ENSMUST00000220351.1  | Actn1   | ENSMUSG0000015143 | actinin, alpha 1 Source MGI Symbol Acc MGI 2137706  |
| A02      | SBM1080837 | ENSMUST00000064204.13 | Actn2   | ENSMUSG0000052374 | actinin alpha 2 Source MGI Symbol Acc MGI 109192  |
| A03      | SBM0786527 | ENSMUST00000006626.4  | Actn3   | ENSMUSG0000006457 | actinin alpha 3 Source MGI Symbol Acc MGI 99678   |
| A04      | SBM1047081 | ENSMUST00000217157.1  | Actn4   | ENSMUSG0000054808 | actinin alpha 4 Source MGI Symbol Acc MGI 1890773   |
| A05      | SBM1021124 | ENSMUST00000013220.7  | Amotl1  | ENSMUSG0000013076 | angiomin-like 1 Source MGI Symbol Acc MGI 1922973   |
| A06      | SBM0886018 | ENSMUST00000176400.7  | Arhgef2 | ENSMUSG0000028059 | rho/rac guanine nucleotide exchange factor (GEF) 2 Source MGI Symbol Acc MGI 103264                 |
| A07      | SBM0746685 | ENSMUST00000189824.1  | Ash1l   | ENSMUSG0000028053 | ASH1 like histone lysine methyltransferase Source MGI Symbol Acc MGI 2183158                        |
| A08      | SBM0832490 | ENSMUST00000135204.1  | Map3k20 | ENSMUSG0000004085 | mitogen-activated protein kinase kinase 20 Source MGI Symbol Acc MGI 2443258                        |
| A09      | SBM1044698 | ENSMUST00000132240.1  | Cask    | ENSMUSG0000031012 | calcium/calmodulin-dependent serine protein kinase (MAGUK family) Source MGI Symbol Acc MGI 1309489 |
| A10      | SBM0765247 | ENSMUST00000232647.1  | Cldn20  | ENSMUSG0000091530 | claudin 20 Source MGI Symbol Acc MGI 3646757  |
| A11      | SBM1071094 | ENSMUST00000030417.9  | Cdc42   | ENSMUSG0000006699 | cell division cycle 42 Source MGI Symbol Acc MGI 106211   |
| A12      | SBM0702559 | ENSMUST00000120226.7  | Cdk4    | ENSMUSG0000006728 | cyclin-dependent kinase 4 Source MGI Symbol Acc MGI 88357   |
| B01      | SBM0985651 | ENSMUST00000155485.2  | Cgn     | ENSMUSG0000068876 | cingulin Source MGI Symbol Acc MGI 1927237  |
| B02      | SBM0759787 | ENSMUST00000023154.2  | Cldn1   | ENSMUSG0000022512 | claudin 1 Source MGI Symbol Acc MGI 1276109   |
| B03      | SBM0821396 | ENSMUST00000071546.13 | Cldn10  | ENSMUSG0000022132 | claudin 10 Source MGI Symbol Acc MGI 1913101  |
| B04      | SBM0807459 | ENSMUST00000046174.7  | Cldn11  | ENSMUSG0000037625 | claudin 11 Source MGI Symbol Acc MGI 106925   |
| B05      | SBM0906857 | ENSMUST00000115446.7  | Cldn12  | ENSMUSG0000046798 | claudin 12 Source MGI Symbol Acc MGI 1929288  |
| B06      | SBM0729770 | ENSMUST00000137163.1  | Cldn14  | ENSMUSG0000047109 | claudin 14 Source MGI Symbol Acc MGI 1860425  |
| B07      | SBM0733312 | ENSMUST00000001790.5  | Cldn15  | ENSMUSG0000001739 | claudin 15 Source MGI Symbol Acc MGI 1913103  |
| B08      | SBM1000305 | ENSMUST00000161053.7  | Cldn16  | ENSMUSG0000038148 | claudin 16 Source MGI Symbol Acc MGI 2148742  |
| B09      | SBM1036248 | ENSMUST00000069549.2  | Cldn17  | ENSMUSG0000055811 | claudin 17 Source MGI Symbol Acc MGI 2652030  |
| B10      | SBM0926903 | ENSMUST00000136429.7  | Cldn18  | ENSMUSG0000032473 | claudin 18 Source MGI Symbol Acc MGI 1929209  |
| B11      | SBM0704025 | ENSMUST00000094823.3  | Cldn19  | ENSMUSG0000066058 | claudin 19 Source MGI Symbol Acc MGI 3033992  |
| B12      | SBM0835590 | ENSMUST00000054889.3  | Cldn2   | ENSMUSG0000047230 | claudin 2 Source MGI Symbol Acc MGI 1276110   |
| C01      | SBM1002288 | ENSMUST00000094245.3  | Cldn3   | ENSMUSG0000070473 | claudin 3 Source MGI Symbol Acc MGI 1329044   |
| C02      | SBM0715143 | ENSMUST00000051401.3  | Cldn4   | ENSMUSG0000047501 | claudin 4 Source MGI Symbol Acc MGI 1313314   |
| C03      | SBM1063020 | ENSMUST00000043577.2  | Cldn5   | ENSMUSG0000041378 | claudin 5 Source MGI Symbol Acc MGI 1276112   |
| C04      | SBM1055283 | ENSMUST00000024699.3  | Cldn6   | ENSMUSG0000023906 | claudin 6 Source MGI Symbol Acc MGI 1859284   |
| C05      | SBM0724146 | ENSMUST00000018713.12 | Cldn7   | ENSMUSG0000018569 | claudin 7 Source MGI Symbol Acc MGI 1859285   |
| C06      | SBM0887355 | ENSMUST00000049697.4  | Cldn8   | ENSMUSG0000050520 | claudin 8 Source MGI Symbol Acc MGI 1859286   |
| C07      | SBM0859917 | ENSMUST00000085989.7  | Cldn9   | ENSMUSG0000066720 | claudin 9 Source MGI Symbol Acc MGI 1913100   |
| C08      | SBM1037228 | ENSMUST00000200340.1  | Crb1    | ENSMUSG0000063681 | crumbs family member 1, photoreceptor morphogenesis associated Source MGI Symbol Acc MGI 2136343    |
| C09      | SBM0792163 | ENSMUST00000071826.9  | Crb3    | ENSMUSG0000044279 | crumbs family member 3 Source MGI Symbol Acc MGI 2670904  |
| C10      | SBM0768138 | ENSMUST00000087865.3  | Ybx3    | ENSMUSG0000030189 | Y box protein 3 Source MGI Symbol Acc MGI 2137670   |
|          |            | ENSMUST000000         |         | ENSMUSG00         |   |

| Position | Assay      | Name                  | Symbol  | Ensembl ID        | Description  |
|----------|------------|-----------------------|---------|-------------------|--|
| C11      | SBM0956396 | 124791.7              | Csnk2a1 | 000074698         | casein kinase 2, alpha 1 polypeptide Source MGI Symbol Acc MGI 88543                                   |
| C12      | SBM1019820 | ENSMUST00000212441.1  | Csnk2a2 | ENSMUSG0000046707 | casein kinase 2, alpha prime polypeptide Source MGI Symbol Acc MGI 88547                               |
| D01      | SBM0897223 | ENSMUST00000173114.7  | Csnk2b  | ENSMUSG0000024387 | casein kinase 2, beta polypeptide Source MGI Symbol Acc MGI 88548                                      |
| D02      | SBM0712952 | ENSMUST00000236571.1  | Ctnna1  | ENSMUSG0000037815 | catenin (cadherin associated protein), alpha 1 Source MGI Symbol Acc MGI 88274                         |
| D03      | SBM0948487 | ENSMUST00000075340.11 | Ctnna2  | ENSMUSG0000063063 | catenin (cadherin associated protein), alpha 2 Source MGI Symbol Acc MGI 88275                         |
| D04      | SBM0993478 | ENSMUST00000075099.4  | Ctnna3  | ENSMUSG0000060843 | catenin (cadherin associated protein), alpha 3 Source MGI Symbol Acc MGI 2661445                       |
| D05      | SBM1021462 | ENSMUST00000007130.14 | Ctnnb1  | ENSMUSG0000006932 | catenin (cadherin associated protein), beta 1 Source MGI Symbol Acc MGI 88276                          |
| D06      | SBM0987219 | ENSMUST00000033407.12 | Ctn     | ENSMUSG0000031078 | cortactin Source MGI Symbol Acc MGI 99695  |
| D07      | SBM0860697 | ENSMUST00000144754.7  | Epb41   | ENSMUSG0000028906 | erythrocyte membrane protein band 4.1 Source MGI Symbol Acc MGI 95401                                  |
| D08      | SBM0973528 | ENSMUST00000146860.7  | Esam    | ENSMUSG0000001946 | endothelial cell-specific adhesion molecule Source MGI Symbol Acc MGI 1916774                          |
| D09      | SBM1054242 | ENSMUST00000043839.4  | F11r    | ENSMUSG0000038235 | F11 receptor Source MGI Symbol Acc MGI 1321398   |
| D10      | SBM0770391 | ENSMUST00000074694.6  | Gnai1   | ENSMUSG0000057614 | guanine nucleotide binding protein (G protein), alpha inhibiting 1 Source MGI Symbol Acc MGI 95771     |
| D11      | SBM0923977 | ENSMUST00000023531.14 | Hcls1   | ENSMUSG0000022831 | hematopoietic cell specific Lyn substrate 1 Source MGI Symbol Acc MGI 104568                           |
| D12      | SBM0806584 | ENSMUST00000215003.1  | Icam1   | ENSMUSG0000037405 | intercellular adhesion molecule 1 Source MGI Symbol Acc MGI 96392                                      |
| E01      | SBM0795564 | ENSMUST00000106813.8  | Icam2   | ENSMUSG0000001029 | intercellular adhesion molecule 2 Source MGI Symbol Acc MGI 96394                                      |
| E02      | SBM1038854 | ENSMUST00000000163.12 | Igsf5   | ENSMUSG0000000159 | immunoglobulin superfamily, member 5 Source MGI Symbol Acc MGI 1919308                                 |
| E03      | SBM0904671 | ENSMUST00000033182.9  | Ilk     | ENSMUSG0000030890 | integrin linked kinase Source MGI Symbol Acc MGI 1195267   |
| E04      | SBM0991983 | ENSMUST00000041284.9  | Patj    | ENSMUSG0000061859 | PATJ, crumbs cell polarity complex component Source MGI Symbol Acc MGI 1277960                         |
| E05      | SBM0855510 | ENSMUST00000231910.1  | Jam2    | ENSMUSG0000053062 | junction adhesion molecule 2 Source MGI Symbol Acc MGI 1933820   |
| E06      | SBM1014326 | ENSMUST00000213682.1  | Jam3    | ENSMUSG0000031990 | junction adhesion molecule 3 Source MGI Symbol Acc MGI 1933825   |
| E07      | SBM0791464 | ENSMUST00000052346.9  | Llg1    | ENSMUSG0000020536 | LLGL1 scribble cell polarity complex component Source MGI Symbol Acc MGI 102682                        |
| E08      | SBM0941391 | ENSMUST00000177736.7  | Llg2    | ENSMUSG0000020782 | LLGL2 scribble cell polarity complex component Source MGI Symbol Acc MGI 1918843                       |
| E09      | SBM0914422 | ENSMUST00000205116.2  | Magi1   | ENSMUSG0000045095 | membrane associated guanylate kinase, WW and PDZ domain containing 1 Source MGI Symbol Acc MGI 1203522 |
| E10      | SBM0985126 | ENSMUST00000064371.13 | Magi3   | ENSMUSG0000052539 | membrane associated guanylate kinase, WW and PDZ domain containing 3 Source MGI Symbol Acc MGI 1923484 |
| E11      | SBM0852288 | ENSMUST00000025921.14 | Mark2   | ENSMUSG0000024969 | MAP/microtubule affinity regulating kinase 2 Source MGI Symbol Acc MGI 99638                           |
| E12      | SBM0992790 | ENSMUST00000170827.8  | Afdn    | ENSMUSG0000068036 | afadin, adherens junction formation factor Source MGI Symbol Acc MGI 1314653                           |
| F01      | SBM0717894 | ENSMUST00000129732.1  | Mpdz    | ENSMUSG0000028402 | multiple PDZ domain protein Source MGI Symbol Acc MGI 1343489  |
| F02      | SBM0948445 | ENSMUST00000082024.6  | Mpp5    | ENSMUSG0000021112 | membrane protein, palmitoylated 5 (MAGUK p55 subfamily member 5) Source MGI Symbol Acc MGI 1927339     |
| F03      | SBM0826878 | ENSMUST00000036236.14 | Mpp6    | ENSMUSG0000038388 | membrane protein, palmitoylated 6 (MAGUK p55 subfamily member 6) Source MGI Symbol Acc MGI 1927340     |
| F04      | SBM1083398 | ENSMUST00000159515.1  | Ocln    | ENSMUSG0000021638 | occludin Source MGI Symbol Acc MGI 106183  |
| F05      | SBM0952015 | ENSMUST00000162309.7  | Pard3   | ENSMUSG0000025812 | par-3 family cell polarity regulator Source MGI Symbol Acc MGI 2135608                                 |
| F06      | SBM1047780 | ENSMUST00000212430.1  | Pard6a  | ENSMUSG0000005699 | par-6 family cell polarity regulator alpha Source MGI Symbol Acc MGI 1927223                           |
| F07      | SBM0895139 | ENSMUST00000052125.6  | Pard6b  | ENSMUSG0000044641 | par-6 family cell polarity regulator beta Source MGI Symbol Acc MGI 2135605                            |
| F08      | SBM1044090 | ENSMUST00000068021.8  | Pecam1  | ENSMUSG0000020717 | platelet/endothelial cell adhesion molecule 1 Source MGI Symbol Acc MGI 97537                          |
| F09      | SBM0705298 | ENSMUST00000108249.8  | Prkci   | ENSMUSG0000037643 | protein kinase C, iota Source MGI Symbol Acc MGI 99260   |
| F10      | SBM0723762 | ENSMUST00000139647.7  | Prkcz   | ENSMUSG0000029053 | protein kinase C, zeta Source MGI Symbol Acc MGI 97602   |

| Position | Assay      | Name                  | Symbol   | Ensembl ID        | Description   |
|----------|------------|-----------------------|----------|-------------------|---|
| F11      | SBM1220566 | ENSMUST00000013807.7  | Pten     | ENSMUSG0000013663 | phosphatase and tensin homolog Source MGI Symbol Acc MGI 109583                             |
| F12      | SBM0680406 | ENSMUST00000145709.7  | Rac1     | ENSMUSG0000001847 | Rac family small GTPase 1 Source MGI Symbol Acc MGI 97845                                   |
| G01      | SBM0943773 | ENSMUST00000194701.5  | Rhoa     | ENSMUSG0000007815 | ras homolog family member A Source MGI Symbol Acc MGI 1096342                               |
| G02      | SBM0958661 | ENSMUST00000110677.7  | Smurf1   | ENSMUSG0000038780 | SMAD specific E3 ubiquitin protein ligase 1 Source MGI Symbol Acc MGI 1923038               |
| G03      | SBM0966564 | ENSMUST00000027817.7  | Spta1    | ENSMUSG0000026532 | spectrin alpha, erythrocytic 1 Source MGI Symbol Acc MGI 98385                              |
| G04      | SBM0816791 | ENSMUST00000113719.8  | Sptan1   | ENSMUSG0000057738 | spectrin alpha, non-erythrocytic 1 Source MGI Symbol Acc MGI 98386                          |
| G05      | SBM0674929 | ENSMUST00000166101.1  | Sptb     | ENSMUSG0000021061 | spectrin beta, erythrocytic Source MGI Symbol Acc MGI 98387                                 |
| G06      | SBM1003748 | ENSMUST00000148861.7  | Sympk    | ENSMUSG0000023118 | symplekin Source MGI Symbol Acc MGI 1915438   |
| G07      | SBM0797666 | ENSMUST00000144691.8  | Tiam1    | ENSMUSG0000002489 | T cell lymphoma invasion and metastasis 1 Source MGI Symbol Acc MGI 103306                  |
| G08      | SBM1086727 | ENSMUST00000224230.1  | Tjap1    | ENSMUSG0000012296 | tight junction associated protein 1 Source MGI Symbol Acc MGI 1921344                       |
| G09      | SBM0797397 | ENSMUST00000144961.1  | Tjp1     | ENSMUSG0000030516 | tight junction protein 1 Source MGI Symbol Acc MGI 98759                                    |
| G10      | SBM0690219 | ENSMUST00000099558.4  | Tjp2     | ENSMUSG0000024812 | tight junction protein 2 Source MGI Symbol Acc MGI 1341872                                  |
| G11      | SBM0683741 | ENSMUST00000219479.1  | Tjp3     | ENSMUSG0000034917 | tight junction protein 3 Source MGI Symbol Acc MGI 1351650                                  |
| G12      | SBM1053902 | ENSMUST00000024897.9  | Vapa     | ENSMUSG0000024091 | vesicle-associated membrane protein, associated protein A Source MGI Symbol Acc MGI 1353561 |
| H01      | SBM1220560 | ENSMUST00000100497.10 | Actb     | ENSMUSG0000029580 | actin, beta Source MGI Symbol Acc MGI 87904   |
| H02      | SBM0675336 | ENSMUST00000102476.4  | B2m      | ENSMUSG0000060802 | beta-2 microglobulin Source MGI Symbol Acc MGI 88127  |
| H03      | SBM1220562 | ENSMUST00000117757.8  | Gapdh    | ENSMUSG0000057666 | glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640                    |
| H04      | SBM1220563 | ENSMUST00000026613.13 | Gusb     | ENSMUSG0000025534 | glucuronidase, beta Source MGI Symbol Acc MGI 95872   |
| H05      | SBM1220564 | ENSMUST00000166469.7  | Hsp90ab1 | ENSMUSG0000023944 | heat shock protein 90 alpha (cytosolic), class B member 1 Source MGI Symbol Acc MGI 96247   |
| H06      | SBM1218554 | Sybr_MGDC             | MGDC     | Sybr_MGDC         | Mouse 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 $\mu$ l reactions: 20 $\mu$ l 8x gDNA Removal Mix, 10 $\mu$ l Reverse Transcription Enzyme, 40 $\mu$ l Reverse Transcription Mix (containing RT primers), 20 $\mu$ l Internal Control RNA, 1.9 ml RNase-Free Water                                   | 205410   |
| QuantiNova SYBR Green RT-PCR Kit (100)*    | For 100 x 20 $\mu$ l reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 $\mu$ l QuantiNova SYBR Green RT Mix, 20 $\mu$ l Internal Control RNA, 500 $\mu$ l Yellow Template Dilution Buffer, 250 $\mu$ l ROX Reference Dye, 1.9 $\mu$ l RNase-Free Water | 208152   |
| QuantiNova SYBR Green PCR Kit (100)*       | For 100 x 20 $\mu$ l reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 $\mu$ l QuantiNova Yellow Template Dilution Buffer, 250 $\mu$ l 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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