

# QuantiNova® LNA® PCR Focus Panels (96-Well Format and 384-Well [4 x 96] Format)

## Mouse Th1 & Th2 Responses

Cat. no. 249950 SBMM-034ZA

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 (96-well): QuantiNova LNA PCR Focus Panel

For the 384-well (4 × 96) PCR panels, genes are present in a staggered format. 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 | Bcl6   | Ccl11  | Ccl5  | Ccl7  | Ccr10    | Ccr2   | Ccr3    | Ccr4    | Ccr5    | Cd27   | Cd28   | Cd4   |
| B | Cd40   | Cd40lg | Cd80  | Cd86  | Cebpb    | Crebbp | Csf2    | Cla4    | Cxcr3   | Fasf   | Gata3  | Gfi1  |
| C | Icos   | Ifng   | Il10  | Il12b | Il12rb2  | Il13   | Il13ra1 | Il15    | Il18    | Il18bp | Il18r1 | Il1r1 |
| D | Il1r1  | Il2    | Il25  | Il27  | Il27ra   | Il2ra  | Il3     | Il4     | Il4ra   | Il5    | Il6    | Il7   |
| E | Il7r   | Il9    | Irf1  | Irf4  | Jak1     | Jak2   | Jak3    | Junb    | Lta     | Maf    | Mapk8  | Mapk9 |
| F | Nfatc1 | Nfatc2 | Nfkb1 | Pcgf2 | Ptprc    | Sftpd  | Socs1   | Socs3   | Socs5   | Spp1   | Stat1  | Stat4 |
| G | Stat6  | Tbx21  | Tgfb3 | Tlr4  | Tlr6     | Tnf    | Tnfrsf4 | Tnfrsf8 | Tnfrsf4 | Tyk2   | Vegfa  | Yy1   |
| 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      | SBM1068298 | ENSMUST0000023151.5  | Bcl6    | ENSMUSG0000022508 | B cell leukemia/lymphoma 6 Source MGI Symbol Acc MGI 107187                            |
| A02      | SBM0757192 | ENSMUST0000000342.2  | Ccl11   | ENSMUSG0000020676 | chemokine (C-C motif) ligand 11 Source MGI Symbol Acc MGI 103576                       |
| A03      | SBM0703029 | ENSMUST00000125015.1 | Ccl5    | ENSMUSG0000035042 | chemokine (C-C motif) ligand 5 Source MGI Symbol Acc MGI 98262                         |
| A04      | SBM0998844 | ENSMUST0000021011.2  | Ccl7    | ENSMUSG0000035373 | chemokine (C-C motif) ligand 7 Source MGI Symbol Acc MGI 99512                         |
| A05      | SBM0858133 | ENSMUST0000062759.3  | Ccr10   | ENSMUSG0000044052 | chemokine (C-C motif) receptor 10 Source MGI Symbol Acc MGI 1096320                    |
| A06      | SBM0796638 | ENSMUST00000168841.2 | Ccr2    | ENSMUSG0000049103 | chemokine (C-C motif) receptor 2 Source MGI Symbol Acc MGI 106185                      |
| A07      | SBM1022292 | ENSMUST0000039171.8  | Ccr3    | ENSMUSG0000035448 | chemokine (C-C motif) receptor 3 Source MGI Symbol Acc MGI 104616                      |
| A08      | SBM0824531 | ENSMUST0000054414.4  | Ccr4    | ENSMUSG0000047898 | chemokine (C-C motif) receptor 4 Source MGI Symbol Acc MGI 107824                      |
| A09      | SBM0964476 | ENSMUST00000111442.2 | Ccr5    | ENSMUSG0000079227 | chemokine (C-C motif) receptor 5 Source MGI Symbol Acc MGI 107182                      |
| A10      | SBM1093198 | ENSMUST0000032486.12 | Cd27    | ENSMUSG0000030336 | CD27 antigen Source MGI Symbol Acc MGI 88326   |
| A11      | SBM0735565 | ENSMUST0000027165.2  | Cd28    | ENSMUSG0000026012 | CD28 antigen Source MGI Symbol Acc MGI 88327   |
| A12      | SBM1064445 | ENSMUST0000024044.6  | Cd4     | ENSMUSG0000023274 | CD4 antigen Source MGI Symbol Acc MGI 88335  |
| B01      | SBM0757957 | ENSMUST0000073707.8  | Cd40    | ENSMUSG0000017652 | CD40 antigen Source MGI Symbol Acc MGI 88336   |
| B02      | SBM0708134 | ENSMUST0000033466.1  | Cd40lg  | ENSMUSG0000031132 | CD40 ligand Source MGI Symbol Acc MGI 88337  |
| B03      | SBM1043965 | ENSMUST00000232409.1 | Cd80    | ENSMUSG0000075122 | CD80 antigen Source MGI Symbol Acc MGI 101775  |
| B04      | SBM0889253 | ENSMUST0000089620.10 | Cd86    | ENSMUSG0000022901 | CD86 antigen Source MGI Symbol Acc MGI 101773  |
| B05      | SBM0682459 | ENSMUST0000070642.3  | Cebpb   | ENSMUSG0000056501 | CCAAT/enhancer binding protein (C/EBP), beta Source MGI Symbol Acc MGI 88373           |
| B06      | SBM0926551 | ENSMUST00000205765.1 | Crebbp  | ENSMUSG0000022521 | CREB binding protein Source MGI Symbol Acc MGI 1098280                                 |
| B07      | SBM1080991 | ENSMUST0000019060.5  | Csf2    | ENSMUSG0000018916 | colony stimulating factor 2 (granulocyte-macrophage) Source MGI Symbol Acc MGI 1339752 |
| B08      | SBM0711116 | ENSMUST00000124816.1 | Ctla4   | ENSMUSG0000026011 | cytotoxic T-lymphocyte-associated protein 4 Source MGI Symbol Acc MGI 88556            |
| B09      | SBM0682187 | ENSMUST0000056614.6  | Cxcr3   | ENSMUSG0000050232 | chemokine (C-X-C motif) receptor 3 Source MGI Symbol Acc MGI 1277207                   |
| B10      | SBM0967876 | ENSMUST0000000834.3  | Fasl    | ENSMUSG0000000817 | Fas ligand (TNF superfamily, member 6) Source MGI Symbol Acc MGI 99255                 |
| B11      | SBM0782281 | ENSMUST00000147533.1 | Gata3   | ENSMUSG0000015619 | GATA binding protein 3 Source MGI Symbol Acc MGI 95663                                 |
| B12      | SBM0999424 | ENSMUST0000065478.11 | Gfi1    | ENSMUSG0000029275 | growth factor independent 1 transcription repressor Source MGI Symbol Acc MGI 103170   |
| C01      | SBM0702277 | ENSMUST0000027162.11 | Icos    | ENSMUSG0000026009 | inducible T cell co-stimulator Source MGI Symbol Acc MGI 1858745                       |
| C02      | SBM0903694 | ENSMUST0000068592.4  | Ifgn    | ENSMUSG0000055170 | interferon gamma Source MGI Symbol Acc MGI 107656                                      |
| C03      | SBM1004151 | ENSMUST0000016673.5  | Il10    | ENSMUSG0000016529 | interleukin 10 Source MGI Symbol Acc MGI 96537   |
| C04      | SBM0957286 | ENSMUST00000102796.9 | Il12b   | ENSMUSG0000004296 | interleukin 12b Source MGI Symbol Acc MGI 96540  |
| C05      | SBM0758729 | ENSMUST00000117441.7 | Il12rb2 | ENSMUSG0000018341 | interleukin 12 receptor, beta 2 Source MGI Symbol Acc MGI 1270861                      |
| C06      | SBM0860496 | ENSMUST0000020650.1  | Il13    | ENSMUSG0000020383 | interleukin 13 Source MGI Symbol Acc MGI 96541   |
| C07      | SBM0817568 | ENSMUST0000033418.7  | Il13ra1 | ENSMUSG0000017057 | interleukin 13 receptor, alpha 1 Source MGI Symbol Acc MGI 105052                      |
| C08      | SBM0737685 | ENSMUST0000034148.6  | Il15    | ENSMUSG0000031712 | interleukin 15 Source MGI Symbol Acc MGI 103014  |
| C09      | SBM0953194 | ENSMUST00000180021.1 | Il18    | ENSMUSG0000039217 | interleukin 18 Source MGI Symbol Acc MGI 107936  |
| C10      | SBM0943354 | ENSMUST00000209368.1 | Il18bp  | ENSMUSG0000070427 | interleukin 18 binding protein Source MGI Symbol Acc MGI 1333800                       |
|          |            | ENSMUST00000         |         | ENSMUSG00         |  |

| Position | Assay      | Name                      | Symbol | Ensembl ID             | Description   |
|----------|------------|---------------------------|--------|------------------------|---|
| C11      | SBM0709309 | 167723.7                  | Il18r1 | 000026070              | interleukin 18 receptor 1 Source MGI Symbol Acc MGI 105383  |
| C12      | SBM1086348 | ENSMUST00000<br>027241.10 | Il1r1  | ENSMUSG00<br>000026072 | interleukin 1 receptor, type I Source MGI Symbol Acc MGI 96545  |
| D01      | SBM0977445 | ENSMUST00000<br>174335.7  | Il1rl1 | ENSMUSG00<br>000026069 | interleukin 1 receptor-like 1 Source MGI Symbol Acc MGI 98427   |
| D02      | SBM0797059 | ENSMUST00000<br>029275.5  | Il2    | ENSMUSG00<br>000027720 | interleukin 2 Source MGI Symbol Acc MGI 96548   |
| D03      | SBM1081255 | ENSMUST00000<br>037863.5  | Il25   | ENSMUSG00<br>000040770 | interleukin 25 Source MGI Symbol Acc MGI 2155888  |
| D04      | SBM0706373 | ENSMUST00000<br>058429.5  | Il27   | ENSMUSG00<br>000044701 | interleukin 27 Source MGI Symbol Acc MGI 2384409  |
| D05      | SBM0689065 | ENSMUST00000<br>210245.1  | Il27ra | ENSMUSG00<br>000005465 | interleukin 27 receptor, alpha Source MGI Symbol Acc MGI 1355318  |
| D06      | SBM1067326 | ENSMUST00000<br>028111.5  | Il2ra  | ENSMUSG00<br>000026770 | interleukin 2 receptor, alpha chain Source MGI Symbol Acc MGI 96549   |
| D07      | SBM1089901 | ENSMUST00000<br>019058.5  | Il3    | ENSMUSG00<br>000018914 | interleukin 3 Source MGI Symbol Acc MGI 96552   |
| D08      | SBM0926369 | ENSMUST00000<br>150568.7  | Il4    | ENSMUSG00<br>000000869 | interleukin 4 Source MGI Symbol Acc MGI 96556   |
| D09      | SBM0691649 | ENSMUST00000<br>206681.1  | Il4ra  | ENSMUSG00<br>000030748 | interleukin 4 receptor, alpha Source MGI Symbol Acc MGI 105367  |
| D10      | SBM1034588 | ENSMUST00000<br>048605.2  | Il5    | ENSMUSG00<br>000036117 | interleukin 5 Source MGI Symbol Acc MGI 96557   |
| D11      | SBM0742623 | ENSMUST00000<br>026845.11 | Il6    | ENSMUSG00<br>000025746 | interleukin 6 Source MGI Symbol Acc MGI 96559   |
| D12      | SBM1037504 | ENSMUST00000<br>168269.7  | Il7    | ENSMUSG00<br>000040329 | interleukin 7 Source MGI Symbol Acc MGI 96561   |
| E01      | SBM0796500 | ENSMUST00000<br>003981.5  | Il7r   | ENSMUSG00<br>000003882 | interleukin 7 receptor Source MGI Symbol Acc MGI 96562  |
| E02      | SBM0847018 | ENSMUST00000<br>022019.3  | Il9    | ENSMUSG00<br>000021538 | interleukin 9 Source MGI Symbol Acc MGI 96563   |
| E03      | SBM1091850 | ENSMUST00000<br>138913.7  | Irf1   | ENSMUSG00<br>000018899 | interferon regulatory factor 1 Source MGI Symbol Acc MGI 96590  |
| E04      | SBM0761311 | ENSMUST00000<br>021784.9  | Irf4   | ENSMUSG00<br>000021356 | interferon regulatory factor 4 Source MGI Symbol Acc MGI 1096873  |
| E05      | SBM0792684 | ENSMUST00000<br>155328.7  | Jak1   | ENSMUSG00<br>000028530 | Janus kinase 1 Source MGI Symbol Acc MGI 96628  |
| E06      | SBM0844988 | ENSMUST00000<br>065796.9  | Jak2   | ENSMUSG00<br>000024789 | Janus kinase 2 Source MGI Symbol Acc MGI 96629  |
| E07      | SBM0924872 | ENSMUST00000<br>051995.13 | Jak3   | ENSMUSG00<br>000031805 | Janus kinase 3 Source MGI Symbol Acc MGI 99928  |
| E08      | SBM0879318 | ENSMUST00000<br>064922.6  | Junb   | ENSMUSG00<br>000052837 | jun B proto-oncogene Source MGI Symbol Acc MGI 96647  |
| E09      | SBM0790437 | ENSMUST00000<br>025266.5  | Lta    | ENSMUSG00<br>000024402 | lymphotoxin A Source MGI Symbol Acc MGI 104797  |
| E10      | SBM0794374 | ENSMUST00000<br>069009.6  | Maf    | ENSMUSG00<br>000055435 | avian musculoaponeurotic fibrosarcoma oncogene homolog Source MGI<br>Symbol Acc MGI 96909                     |
| E11      | SBM0984642 | ENSMUST00000<br>132379.1  | Mapk8  | ENSMUSG00<br>000021936 | mitogen-activated protein kinase 8 Source MGI Symbol Acc MGI 1346861  |
| E12      | SBM1025510 | ENSMUST00000<br>144857.7  | Mapk9  | ENSMUSG00<br>000020366 | mitogen-activated protein kinase 9 Source MGI Symbol Acc MGI 1346862  |
| F01      | SBM1038763 | ENSMUST00000<br>078049.11 | Nfatc1 | ENSMUSG00<br>000033016 | nuclear factor of activated T cells, cytoplasmic, calcineurin dependent 1 Source<br>MGI Symbol Acc MGI 102469 |
| F02      | SBM0850906 | ENSMUST00000<br>099067.9  | Nfatc2 | ENSMUSG00<br>000027544 | nuclear factor of activated T cells, cytoplasmic, calcineurin dependent 2 Source<br>MGI Symbol Acc MGI 102463 |
| F03      | SBM0841870 | ENSMUST00000<br>164430.6  | Nfkb1  | ENSMUSG00<br>000028163 | nuclear factor of kappa light polypeptide gene enhancer in B cells 1, p105<br>Source MGI Symbol Acc MGI 97312 |
| F04      | SBM0879579 | ENSMUST00000<br>103149.8  | Pcgf2  | ENSMUSG00<br>000018537 | polycomb group ring finger 2 Source MGI Symbol Acc MGI 99161  |
| F05      | SBM0851018 | ENSMUST00000<br>183229.2  | Ptprc  | ENSMUSG00<br>000026395 | protein tyrosine phosphatase, receptor type, C Source MGI Symbol Acc MGI<br>97810                             |
| F06      | SBM0834442 | ENSMUST00000<br>077136.4  | Sftpd  | ENSMUSG00<br>000021795 | surfactant associated protein D Source MGI Symbol Acc MGI 109515  |
| F07      | SBM0830785 | ENSMUST00000<br>229866.1  | Socs1  | ENSMUSG00<br>000038037 | suppressor of cytokine signaling 1 Source MGI Symbol Acc MGI 1354910  |
| F08      | SBM0977814 | ENSMUST00000<br>054002.3  | Socs3  | ENSMUSG00<br>000053113 | suppressor of cytokine signaling 3 Source MGI Symbol Acc MGI 1201791  |
| F09      | SBM0834297 | ENSMUST00000<br>041369.7  | Socs5  | ENSMUSG00<br>000037104 | suppressor of cytokine signaling 5 Source MGI Symbol Acc MGI 2385459  |
| F10      | SBM0826950 | ENSMUST00000<br>086833.12 | Spp1   | ENSMUSG00<br>000029304 | secreted phosphoprotein 1 Source MGI Symbol Acc MGI 98389   |

| Position | Assay      | Name                   | Symbol   | Ensembl ID         | Description   |
|----------|------------|------------------------|----------|--------------------|---|
| F11      | SBM0954168 | ENSMUST00000070968.13  | Stat1    | ENSMUSG0000026104  | signal transducer and activator of transcription 1 Source MGI Symbol Acc MGI 103063       |
| F12      | SBM0758089 | ENSMUST000000187554.1  | Stat4    | ENSMUSG00000062939 | signal transducer and activator of transcription 4 Source MGI Symbol Acc MGI 103062       |
| G01      | SBM0912507 | ENSMUST000000156231.1  | Stat6    | ENSMUSG00000002147 | signal transducer and activator of transcription 6 Source MGI Symbol Acc MGI 103034       |
| G02      | SBM1024821 | ENSMUST00000001484.2   | Tbx21    | ENSMUSG00000001444 | T-box 21 Source MGI Symbol Acc MGI 1888984  |
| G03      | SBM1022458 | ENSMUST00000003687.7   | Tgfb3    | ENSMUSG00000021253 | transforming growth factor, beta 3 Source MGI Symbol Acc MGI 98727                        |
| G04      | SBM0745293 | ENSMUST000000107365.2  | Tlr4     | ENSMUSG00000039005 | toll-like receptor 4 Source MGI Symbol Acc MGI 96824                                      |
| G05      | SBM0968629 | ENSMUST000000201307.1  | Tlr6     | ENSMUSG00000051498 | toll-like receptor 6 Source MGI Symbol Acc MGI 1341296                                    |
| G06      | SBM0788439 | ENSMUST00000025263.14  | Tnf      | ENSMUSG00000024401 | tumor necrosis factor Source MGI Symbol Acc MGI 104798                                    |
| G07      | SBM0900193 | ENSMUST000000143576.1  | Tnfrsf4  | ENSMUSG00000029075 | tumor necrosis factor receptor superfamily, member 4 Source MGI Symbol Acc MGI 104512     |
| G08      | SBM0814576 | ENSMUST000000123027.1  | Tnfrsf8  | ENSMUSG00000028602 | tumor necrosis factor receptor superfamily, member 8 Source MGI Symbol Acc MGI 99908      |
| G09      | SBM1089254 | ENSMUST000000028024.4  | Tnfsf4   | ENSMUSG00000026700 | tumor necrosis factor (ligand) superfamily, member 4 Source MGI Symbol Acc MGI 104511     |
| G10      | SBM0927410 | ENSMUST000000214454.1  | Tyk2     | ENSMUSG00000032175 | tyrosine kinase 2 Source MGI Symbol Acc MGI 1929470                                       |
| G11      | SBM1079198 | ENSMUST000000217017.1  | Vegfa    | ENSMUSG00000023951 | vascular endothelial growth factor A Source MGI Symbol Acc MGI 103178                     |
| G12      | SBM0955085 | ENSMUST000000126912.1  | Yy1      | ENSMUSG00000021264 | YY1 transcription factor Source MGI Symbol Acc MGI 99150                                  |
| H01      | SBM1220560 | ENSMUST000000100497.10 | Actb     | ENSMUSG00000029580 | actin, beta Source MGI Symbol Acc MGI 87904   |
| H02      | SBM0675336 | ENSMUST000000102476.4  | B2m      | ENSMUSG00000060802 | beta-2 microglobulin Source MGI Symbol Acc MGI 88127                                      |
| H03      | SBM1220562 | ENSMUST000000117757.8  | Gapdh    | ENSMUSG00000057666 | glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640                  |
| H04      | SBM1220563 | ENSMUST000000026613.13 | Gusb     | ENSMUSG00000025534 | glucuronidase, beta Source MGI Symbol Acc MGI 95872                                       |
| H05      | SBM1220564 | ENSMUST000000166469.7  | Hsp90ab1 | ENSMUSG00000023944 | 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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