

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

## Rat Cancer Inflammation & Immunity Crosstalk

Cat. no. 249950 SBRN-181ZA

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 | Aicda  | Bcl2   | Bcl2l1 | Ccl2         | Cd20  | Cd21  | Ccl22 | Ccl28 | Ccl4            | Ccl5     | Ccr1   | Ccr10  |
| B | Ccr6   | Ccr4   | Ccr5   | Ccr7         | Ccr9  | Cd274 | Csf1  | Csf2  | Csf3            | Ctla4    | Cxcl1  | Cxcl10 |
| C | Cxcl11 | Cxcl12 | Cxcl2  | Cxcl6        | Cxcl9 | Cxcr1 | Cxcr2 | Cxcr3 | Cxcr4           | Cxcr5    | Ackr3  | Egf    |
| D | Egfr   | Faslg  | Foxp3  | Gbp2         | Gzma  | Gzmb  | Hif1a | Ido1  | Ifng            | Igf1     | Il10   | Il12a  |
| E | Il12b  | Il13   | Il15   | Il17a        | Il1a  | Il1b  | Il1r1 | Il2   | Il22            | Il23a    | Il4    | Il6    |
| F | Irf1   | Killg  | Micb   | LOC103694877 | Myc   | Myd88 | Nfkb1 | Nos2  | NEWGENE_1311658 | Ptgs2    | RT1-A1 | RT1-N2 |
| G | Spp1   | Stat1  | Stat3  | Tgfb1        | Tlr2  | Tlr3  | Tlr4  | Tlr7  | LOC103694380    | Tnfrsf10 | Tp53   | Vegfa  |
| 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      | SBR1212507 | ENSRNOT00000020762.7  | Aicda  | ENSRNOG0000015478 | activation-induced cytidine deaminase Source RGD Symbol Acc 1303222     |
| A02      | SBR1170984 | ENSRNOT00000003768.2  | Bcl2   | ENSRNOG0000002791 | BCL2, apoptosis regulator Source RGD Symbol Acc 2199                    |
| A03      | SBR1205791 | ENSRNOT00000010762.7  | Bcl2l1 | ENSRNOG0000007946 | Bcl2-like 1 Source RGD Symbol Acc 2200                                  |
| A04      | SBR1165601 | ENSRNOT00000009448.3  | Ccl2   | ENSRNOG0000007159 | C-C motif chemokine ligand 2 Source RGD Symbol Acc 3645                 |
| A05      | SBR1163271 | ENSRNOT00000021730.3  | Ccl20  | ENSRNOG0000015992 | C-C motif chemokine ligand 20 Source RGD Symbol Acc 3646                |
| A06      | SBR1161847 | ENSRNOT00000023951.6  | Ccl21  | ENSRNOG0000034290 | C-C motif chemokine ligand 21 Source RGD Symbol Acc 1311996             |
| A07      | SBR1108415 | ENSRNOT00000022167.3  | Ccl22  | ENSRNOG0000016535 | C-C motif chemokine ligand 22 Source RGD Symbol Acc 619933              |
| A08      | SBR1118870 | ENSRNOT000000084486.1 | Ccl28  | ENSRNOG0000059640 | C-C motif chemokine ligand 28 Source RGD Symbol Acc 619937              |
| A09      | SBR1202700 | ENSRNOT00000015199.3  | Ccl4   | ENSRNOG0000011406 | C-C motif chemokine ligand 4 Source RGD Symbol Acc 620441               |
| A10      | SBR1094349 | ENSRNOT00000014865.6  | Ccl5   | ENSRNOG0000010906 | C-C motif chemokine ligand 5 Source RGD Symbol Acc 69069                |
| A11      | SBR1135029 | ENSRNOT00000008772.4  | Ccr1   | ENSRNOG0000006715 | C-C motif chemokine receptor 1 Source RGD Symbol Acc 708446             |
| A12      | SBR1103843 | ENSRNOT00000027458.5  | Ccr10  | ENSRNOG0000020275 | C-C motif chemokine receptor 10 Source RGD Symbol Acc 1310716           |
| B01      | SBR1172047 | ENSRNOT00000017302.6  | Ccr6   | ENSRNOG0000012964 | C-C motif chemokine receptor 6 Source RGD Symbol Acc 1308562            |
| B02      | SBR1113127 | ENSRNOT00000013705.3  | Ccr4   | ENSRNOG0000010315 | C-C motif chemokine receptor 4 Source RGD Symbol Acc 620594             |
| B03      | SBR1129600 | ENSRNOT000000082774.1 | Ccr5   | ENSRNOG0000049115 | C-C motif chemokine receptor 5 Source RGD Symbol Acc 620596             |
| B04      | SBR1211640 | ENSRNOT00000014163.7  | Ccr7   | ENSRNOG0000010665 | C-C motif chemokine receptor 7 Source RGD Symbol Acc 735151             |
| B05      | SBR1114196 | ENSRNOT00000008269.7  | Ccr9   | ENSRNOG0000006311 | C-C motif chemokine receptor 9 Source RGD Symbol Acc 628750             |
| B06      | SBR1169123 | ENSRNOT00000034421.6  | Cd274  | ENSRNOG0000016112 | CD274 molecule Source RGD Symbol Acc 1566211                            |
| B07      | SBR1099651 | ENSRNOT00000025222.6  | Csf1   | ENSRNOG0000018659 | colony stimulating factor 1 Source RGD Symbol Acc 621063                |
| B08      | SBR1136894 | ENSRNOT00000032333.3  | Csf2   | ENSRNOG0000026805 | colony stimulating factor 2 Source RGD Symbol Acc 621065                |
| B09      | SBR1124341 | ENSRNOT00000011509.3  | Csf3   | ENSRNOG0000008525 | colony stimulating factor 3 Source RGD Symbol Acc 2426                  |
| B10      | SBR1126546 | ENSRNOT000000088183.1 | Ctla4  | ENSRNOG0000054129 | cytotoxic T-lymphocyte-associated protein 4 Source RGD Symbol Acc 61975 |
| B11      | SBR1198580 | ENSRNOT00000003778.3  | Cxcl1  | ENSRNOG0000002802 | C-X-C motif chemokine ligand 1 Source RGD Symbol Acc 619869             |
| B12      | SBR1153857 | ENSRNOT00000003075.7  | Cxcl10 | ENSRNOG0000022256 | C-X-C motif chemokine ligand 10 Source RGD Symbol Acc 620209            |
| C01      | SBR1210202 | ENSRNOT00000031667.4  | Cxcl11 | ENSRNOG0000022298 | C-X-C motif chemokine ligand 11 Source RGD Symbol Acc 727827            |
| C02      | SBR1209894 | ENSRNOT00000066670.3  | Cxcl12 | ENSRNOG0000013589 | C-X-C motif chemokine ligand 12 Source RGD Symbol Acc 3651              |
| C03      | SBR1132150 | ENSRNOT00000003745.6  | Cxcl2  | ENSRNOG0000002792 | C-X-C motif chemokine ligand 2 Source RGD Symbol Acc 70069              |
| C04      | SBR1137423 | ENSRNOT00000003823.3  | Cxcl6  | ENSRNOG0000002843 | C-X-C motif chemokine ligand 6 Source RGD Symbol Acc 708540             |
| C05      | SBR1174753 | ENSRNOT00000003082.7  | Cxcl9  | ENSRNOG0000022242 | C-X-C motif chemokine ligand 9 Source RGD Symbol Acc 628798             |
| C06      | SBR1128990 | ENSRNOT00000090868.1  | Cxcr1  | ENSRNOG0000048239 | C-X-C motif chemokine receptor 1 Source RGD Symbol Acc 2905             |
| C07      | SBR1118473 | ENSRNOT00000081711.1  | Cxcr2  | ENSRNOG0000014269 | C-X-C motif chemokine receptor 2 Source RGD Symbol Acc 2906             |
| C08      | SBR1150044 | ENSRNOT00000076210.1  | Cxcr3  | ENSRNOG0000003305 | C-X-C motif chemokine receptor 3 Source RGD Symbol Acc 621528           |
| C09      | SBR1129817 | ENSRNOT00000005143.6  | Cxcr4  | ENSRNOG0000003866 | C-X-C motif chemokine receptor 4 Source RGD Symbol Acc 620465           |
| C10      | SBR1117366 | ENSRNOT00000016580.3  | Cxcr5  | ENSRNOG0000012430 | C-X-C motif chemokine receptor 5 Source RGD Symbol Acc 62010            |
|          |            | ENSRNOT000000         |        | ENSRNOG00         |                                                                         |

| Position | Assay      | Name                 | Symbol          | Ensembl ID        | Description                                                                                                                            |
|----------|------------|----------------------|-----------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| C11      | SBR1152673 | 026558.3             | Ackr3           | 000019622         | atypical chemokine receptor 3 Source RGD Symbol Acc 620601                                                                             |
| C12      | SBR1200927 | ENSRNOT00000087007.1 | Egf             | ENSRNOG0000053979 | epidermal growth factor Source RGD Symbol Acc 2542                                                                                     |
| D01      | SBR1196436 | ENSRNOT00000006087.2 | Egfr            | ENSRNOG0000004332 | epidermal growth factor receptor Source RGD Symbol Acc 2543                                                                            |
| D02      | SBR1097457 | ENSRNOT00000003998.2 | Faslg           | ENSRNOG0000002978 | Fas ligand Source RGD Symbol Acc 3880                                                                                                  |
| D03      | SBR1152159 | ENSRNOT00000091146.1 | Foxp3           | ENSRNOG0000011702 | forkhead box P3 Source RGD Symbol Acc 1562112                                                                                          |
| D04      | SBR1180834 | ENSRNOT00000068683.3 | Gbp2            | ENSRNOG0000031743 | guanylate binding protein 2 Source RGD Symbol Acc 621810                                                                               |
| D05      | SBR1165549 | ENSRNOT00000014134.3 | Gzma            | ENSRNOG0000010603 | granzyme A Source RGD Symbol Acc 628640                                                                                                |
| D06      | SBR1201047 | ENSRNOT00000041430.5 | Gzmb            | ENSRNOG0000049976 | Granzyme B-like 2 Source RGD Symbol Acc 2320097                                                                                        |
| D07      | SBR1184753 | ENSRNOT00000077935.1 | Hif1a           | ENSRNOG0000008292 | hypoxia inducible factor 1 subunit alpha Source RGD Symbol Acc 61928                                                                   |
| D08      | SBR1216578 | ENSRNOT00000051363.2 | Ido1            | ENSRNOG0000031189 | indoleamine 2,3-dioxygenase 1 Source RGD Symbol Acc 619989                                                                             |
| D09      | SBR1108917 | ENSRNOT00000009919.2 | Ifng            | ENSRNOG0000007468 | interferon gamma Source RGD Symbol Acc 2866                                                                                            |
| D10      | SBR1185495 | ENSRNOT00000038780.6 | Igf1            | ENSRNOG0000004517 | insulin-like growth factor 1 Source RGD Symbol Acc 2868                                                                                |
| D11      | SBR1123238 | ENSRNOT00000006246.5 | Il10            | ENSRNOG0000004647 | interleukin 10 Source RGD Symbol Acc 2886                                                                                              |
| D12      | SBR1107831 | ENSRNOT00000012831.3 | Il12a           | ENSRNOG0000009468 | interleukin 12A Source RGD Symbol Acc 620562                                                                                           |
| E01      | SBR1133771 | ENSRNOT00000005898.6 | Il12b           | ENSRNOG0000004380 | interleukin 12B Source RGD Symbol Acc 628704                                                                                           |
| E02      | SBR1178777 | ENSRNOT00000010121.2 | Il13            | ENSRNOG0000007652 | interleukin 13 Source RGD Symbol Acc 68949                                                                                             |
| E03      | SBR1188273 | ENSRNOT00000004590.6 | Il15            | ENSRNOG0000003439 | interleukin 15 Source RGD Symbol Acc 2887                                                                                              |
| E04      | SBR1131301 | ENSRNOT00000016664.4 | Il17a           | ENSRNOG0000012467 | interleukin 17A Source RGD Symbol Acc 2888                                                                                             |
| E05      | SBR1106125 | ENSRNOT00000006113.8 | Il1a            | ENSRNOG0000004575 | interleukin 1 alpha Source RGD Symbol Acc 2890                                                                                         |
| E06      | SBR1196387 | ENSRNOT00000006308.4 | Il1b            | ENSRNOG0000004649 | interleukin 1 beta Source RGD Symbol Acc 2891                                                                                          |
| E07      | SBR1113457 | ENSRNOT00000019673.4 | Il1r1           | ENSRNOG0000014504 | interleukin 1 receptor type 1 Source RGD Symbol Acc 2892                                                                               |
| E08      | SBR1102170 | ENSRNOT00000023327.2 | Il2             | ENSRNOG0000017348 | interleukin 2 Source RGD Symbol Acc 620047                                                                                             |
| E09      | SBR1099298 | ENSRNOT00000009776.4 | Il22            | ENSRNOG0000007365 | interleukin 22 Source RGD Symbol Acc 1561292                                                                                           |
| E10      | SBR1176508 | ENSRNOT00000004363.3 | Il23a           | ENSRNOG0000003254 | interleukin 23 subunit alpha Source RGD Symbol Acc 620873                                                                              |
| E11      | SBR1101847 | ENSRNOT00000010029.3 | Il4             | ENSRNOG0000007624 | interleukin 4 Source RGD Symbol Acc 2898                                                                                               |
| E12      | SBR1156877 | ENSRNOT00000013732.6 | Il6             | ENSRNOG0000010278 | interleukin 6 Source RGD Symbol Acc 2901                                                                                               |
| F01      | SBR1170657 | ENSRNOT00000010968.6 | Irf1            | ENSRNOG0000008144 | interferon regulatory factor 1 Source RGD Symbol Acc 2920                                                                              |
| F02      | SBR1164095 | ENSRNOT00000085097.1 | Kitlg           | ENSRNOG0000005386 | KIT ligand Source RGD Symbol Acc 3086                                                                                                  |
| F03      | SBR1102818 | ENSRNOT00000083211.1 | Micb            | ENSRNOG0000057645 | MHC class I polypeptide-related sequence B Source RGD Symbol Acc 1564508                                                               |
| F04      | SBR1136891 | ENSRNOT00000008608.4 | LOC103694877    | ENSRNOG0000006589 | macrophage migration inhibitory factor Source RGD Symbol Acc 621163                                                                    |
| F05      | SBR1106364 | ENSRNOT00000006188.5 | Myc             | ENSRNOG0000004500 | MYC proto-oncogene, bHLH transcription factor Source RGD Symbol Acc 3130                                                               |
| F06      | SBR1185632 | ENSRNOT00000018341.5 | Myd88           | ENSRNOG0000013634 | MYD88, innate immune signal transduction adaptor Source RGD Symbol Acc 735043                                                          |
| F07      | SBR1111134 | ENSRNOT00000036838.4 | Nfkb1           | ENSRNOG0000023258 | nuclear factor kappa B subunit 1 Source RGD Symbol Acc 70498                                                                           |
| F08      | SBR1197401 | ENSRNOT00000073138.2 | Nos2            | ENSRNOG0000057443 | similar to Nitric oxide synthase, inducible (NOS type II) (Inducible NO synthase) (Inducible NOS) (iNOS) Source RGD Symbol Acc 1598227 |
| F09      | SBR1164719 | ENSRNOT00000074915.1 | NEWGENE_1311658 | ENSRNOG0000049797 | programmed cell death 1 Source RGD Symbol Acc 1311658                                                                                  |
| F10      | SBR1122148 | ENSRNOT00000003567.4 | Ptgs2           | ENSRNOG0000002525 | prostaglandin-endoperoxide synthase 2 Source RGD Symbol Acc 620349                                                                     |

| Position | Assay      | Name                 | Symbol       | Ensembl ID        | Description                                                                      |
|----------|------------|----------------------|--------------|-------------------|----------------------------------------------------------------------------------|
| F11      | SBR1095351 | ENSRNOT00000081240.1 | RT1-A1       | ENSRNOG0000038999 | RT1 class Ia, locus A1 Source RGD Symbol Acc 1595924                             |
| F12      | SBR1193500 | ENSRNOT00000084770.1 | RT1-N2       | ENSRNOG0000029386 | RT1 class Ib, locus N2 Source RGD Symbol Acc 1595850                             |
| G01      | SBR1210860 | ENSRNOT00000075989.1 | Spp1         | ENSRNOG0000043451 | secreted phosphoprotein 1 Source RGD Symbol Acc 3752                             |
| G02      | SBR1199428 | ENSRNOT00000080522.1 | Stat1        | ENSRNOG0000014079 | signal transducer and activator of transcription 4 Source RGD Symbol Acc 1305747 |
| G03      | SBR1138417 | ENSRNOT00000026760.4 | Stat3        | ENSRNOG0000019742 | signal transducer and activator of transcription 3 Source RGD Symbol Acc 3772    |
| G04      | SBR1143485 | ENSRNOT00000028051.4 | Tgfb1        | ENSRNOG0000020652 | transforming growth factor, beta 1 Source RGD Symbol Acc 69051                   |
| G05      | SBR1126190 | ENSRNOT00000013025.4 | Tlr2         | ENSRNOG0000009822 | toll-like receptor 2 Source RGD Symbol Acc 735138                                |
| G06      | SBR1119614 | ENSRNOT00000035781.5 | Tlr3         | ENSRNOG0000021726 | toll-like receptor 3 Source RGD Symbol Acc 735171                                |
| G07      | SBR1180108 | ENSRNOT00000014020.3 | Tlr4         | ENSRNOG0000010522 | toll-like receptor 4 Source RGD Symbol Acc 3870                                  |
| G08      | SBR1144425 | ENSRNOT00000005620.6 | Tlr7         | ENSRNOG0000004249 | toll-like receptor 7 Source RGD Symbol Acc 1563357                               |
| G09      | SBR1187845 | ENSRNOT00000079677.1 | LOC103694380 | ENSRNOG0000055156 | tumor necrosis factor-like Source RGD Symbol Acc 9404643                         |
| G10      | SBR1107258 | ENSRNOT00000017758.5 | Tnfsf10      | ENSRNOG0000013269 | TNF superfamily member 10 Source RGD Symbol Acc 628734                           |
| G11      | SBR1172374 | ENSRNOT00000046490.3 | Tp53         | ENSRNOG0000010756 | tumor protein p53 Source RGD Symbol Acc 3889                                     |
| G12      | SBR1108862 | ENSRNOT00000044163.4 | Vegfa        | ENSRNOG0000019598 | vascular endothelial growth factor A Source RGD Symbol Acc 619991                |
| 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.

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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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