

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

## Rat Parkinson's Disease

Cat. no. 249950 SBRN-124ZA

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 | Aldh1a1            | Apc     | App    | Alp2b2 | Atxn2   | Atxn3 | Basp1  | Bdnf   | Cadps      | Casp1  | Casp3 | Casp7 |
| B | Casp8              | Casp9   | Cd44   | Cdc27  | Cdc42   | Cdh8  | Chgb   | Cirbp  | Cul2       | Cxcl1  | Ddc   | Dlk1  |
| C | Drd2               | Egln1   | Fbxo9  | Fgf13  | Fjx1    | Fn1   | Gabbp2 | Gpr37  | Gria3      | Hmgcs1 | Hspa4 | Htr2a |
| D | Kcnj6              | Mapk9   | Mapt   | Nefl   | Nfasc   | Nr4a2 | Nrxn3  | Nsf    | Nsg1       | Ntrk2  | Opa1  | Pan2  |
| E | AABR0700151<br>9.1 | Park7   | Pink1  | Ppid   | Ppp2r1b | Prdx2 | Psen2  | Plen   | Rgs4       | Rtn1   | S100b | Skp1  |
| F | Slc18a2            | Slc25a4 | Slc6a3 | Slit1  | Snca    | Spen  | Srsf7  | Stub1  | AC126641.1 | Syngt3 | Syt1  | Syt11 |
| G | Tcf7l2             | Th      | Tpbp   | Uba1   | Ubb     | Ube2i | Ube2k  | Ube2l3 | Uchl1      | Vamp1  | Vdac3 | Ywhaz |
| 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      | SBR1184560 | ENSRNOT00000024000.6 | Aldh1a1 | ENSRNOG0000017619 | aldehyde dehydrogenase 1 family, member A1 Source RGD Symbol Acc 2087           |
| A02      | SBR1094067 | ENSRNOT00000090264.1 | Apc     | ENSRNOG0000020423 | APC, WNT signaling pathway regulator Source RGD Symbol Acc 2123                 |
| A03      | SBR1129904 | ENSRNOT00000048854.6 | App     | ENSRNOG0000006997 | amyloid beta precursor protein Source RGD Symbol Acc 2139                       |
| A04      | SBR1212310 | ENSRNOT00000043476.5 | Atp2b2  | ENSRNOG0000030269 | ATPase plasma membrane Ca2+ transporting 2 Source RGD Symbol Acc 2176           |
| A05      | SBR1199684 | ENSRNOT00000001691.8 | Atxn2   | ENSRNOG0000001256 | ataxin 2 Source RGD Symbol Acc 1306637                                          |
| A06      | SBR1173486 | ENSRNOT00000007505.2 | Atxn3   | ENSRNOG0000005470 | ataxin 3 Source RGD Symbol Acc 621567                                           |
| A07      | SBR1111971 | ENSRNOT00000073915.2 | Basp1   | ENSRNOG0000046313 | brain abundant, membrane attached signal protein 1 Source RGD Symbol Acc 621491 |
| A08      | SBR1172593 | ENSRNOT00000083542.1 | Bdnf    | ENSRNOG0000047466 | brain-derived neurotrophic factor Source RGD Symbol Acc 2202                    |
| A09      | SBR1141669 | ENSRNOT00000012153.6 | Cadps   | ENSRNOG0000008570 | calcium dependent secretion activator Source RGD Symbol Acc 708573              |
| A10      | SBR1122190 | ENSRNOT00000009993.6 | Casp1   | ENSRNOG0000007372 | caspase 1 Source RGD Symbol Acc 2274                                            |
| A11      | SBR1123217 | ENSRNOT00000014095.5 | Casp3   | ENSRNOG0000010475 | caspase 3 Source RGD Symbol Acc 2275                                            |
| A12      | SBR1124602 | ENSRNOT00000080511.1 | Casp7   | ENSRNOG0000056216 | caspase 7 Source RGD Symbol Acc 620944                                          |
| B01      | SBR1182801 | ENSRNOT00000016613.4 | Casp8   | ENSRNOG0000012331 | caspase 8 Source RGD Symbol Acc 620945                                          |
| B02      | SBR1175310 | ENSRNOT00000085378.1 | Casp9   | ENSRNOG0000012944 | caspase 9 Source RGD Symbol Acc 61867                                           |
| B03      | SBR1148883 | ENSRNOT00000009000.7 | Cd44    | ENSRNOG0000006094 | CD44 molecule (Indian blood group) Source RGD Symbol Acc 2307                   |
| B04      | SBR1124192 | ENSRNOT00000007963.5 | Cdc27   | ENSRNOG0000005904 | cell division cycle 27 Source RGD Symbol Acc 1304921                            |
| B05      | SBR1159831 | ENSRNOT00000029025.5 | Cdc42   | ENSRNOG0000013536 | cell division cycle 42 Source RGD Symbol Acc 71043                              |
| B06      | SBR1211207 | ENSRNOT00000084126.1 | Cdh8    | ENSRNOG0000056643 | cadherin 8 Source RGD Symbol Acc 69286                                          |
| B07      | SBR1154809 | ENSRNOT00000028892.4 | Chgb    | ENSRNOG0000021269 | chromogranin B Source RGD Symbol Acc 2339                                       |
| B08      | SBR1152405 | ENSRNOT00000021648.6 | Cirbp   | ENSRNOG0000015999 | cold inducible RNA binding protein Source RGD Symbol Acc 620756                 |
| B09      | SBR1167569 | ENSRNOT00000079607.1 | Cul2    | ENSRNOG0000015292 | cullin 2 Source RGD Symbol Acc 1310644                                          |
| B10      | SBR1129427 | ENSRNOT00000020472.6 | Cxxc1   | ENSRNOG0000014614 | CXXC finger protein 1 Source RGD Symbol Acc 1310755                             |
| B11      | SBR1153672 | ENSRNOT00000005851.6 | Ddc     | ENSRNOG0000004327 | dopa decarboxylase Source RGD Symbol Acc 2494                                   |
| B12      | SBR1102845 | ENSRNOT00000006339.6 | Dlk1    | ENSRNOG0000019584 | delta like non-canonical Notch ligand 1 Source RGD Symbol Acc 619931            |
| C01      | SBR1132727 | ENSRNOT00000083419.1 | Drd2    | ENSRNOG0000008428 | dopamine receptor D2 Source RGD Symbol Acc 2520                                 |
| C02      | SBR1191212 | ENSRNOT00000026767.7 | Egln1   | ENSRNOG0000019773 | egl-9 family hypoxia-inducible factor 1 Source RGD Symbol Acc 631375            |
| C03      | SBR1131233 | ENSRNOT00000010961.5 | Fbxo9   | ENSRNOG0000008214 | f-box protein 9 Source RGD Symbol Acc 1310374                                   |
| C04      | SBR1110705 | ENSRNOT00000091330.1 | Fgf13   | ENSRNOG0000042753 | fibroblast growth factor 13 Source RGD Symbol Acc 620164                        |
| C05      | SBR1177945 | ENSRNOT00000007077.5 | Fjx1    | ENSRNOG0000005347 | four-jointed box kinase 1 Source RGD Symbol Acc 1306113                         |
| C06      | SBR1178912 | ENSRNOT00000019772.6 | Fn1     | ENSRNOG0000014288 | fibronectin 1 Source RGD Symbol Acc 2624                                        |
| C07      | SBR1193822 | ENSRNOT00000011573.4 | Gabbr2  | ENSRNOG0000008431 | gamma-aminobutyric acid type B receptor subunit 2 Source RGD Symbol Acc 619864  |
| C08      | SBR1114021 | ENSRNOT00000003593.6 | Gpr37   | ENSRNOG0000002524 | G protein-coupled receptor 37 Source RGD Symbol Acc 619848                      |
| C09      | SBR1198346 | ENSRNOT00000029031.7 | Gria3   | ENSRNOG0000007682 | glutamate ionotropic receptor AMPA type subunit 3 Source RGD Symbol Acc 70958   |
| C10      | SBR1172529 | ENSRNOT00000023554.6 | Hmgcs1  | ENSRNOG0000016552 | 3-hydroxy-3-methylglutaryl-CoA synthase 1 Source RGD Symbol Acc 70970           |
|          |            | ENSRNOT000000        |         | ENSRNOG00         |                                                                                 |

| Position | Assay      | Name                 | Symbol         | Ensembl ID        | Description                                                                           |
|----------|------------|----------------------|----------------|-------------------|---------------------------------------------------------------------------------------|
| C11      | SBR1138708 | 023628.3             | Hspa4          | 000016596         | heat shock protein family A member 4 Source RGD Symbol Acc 628878                     |
| C12      | SBR1130221 | ENSRNOT00000013408.6 | Hlr2a          | ENSRNOG0000010063 | 5-hydroxytryptamine receptor 2A Source RGD Symbol Acc 61800                           |
| D01      | SBR1203649 | ENSRNOT00000066940.2 | Kcnj6          | ENSRNOG0000001658 | potassium voltage-gated channel subfamily J member 6 Source RGD Symbol Acc 2959       |
| D02      | SBR1169613 | ENSRNOT00000004010.4 | Mapk9          | ENSRNOG0000002823 | mitogen-activated protein kinase 9 Source RGD Symbol Acc 628847                       |
| D03      | SBR1202634 | ENSRNOT00000042984.5 | Mapt           | ENSRNOG0000005133 | microtubule-associated protein tau Source RGD Symbol Acc 69329                        |
| D04      | SBR1148387 | ENSRNOT00000018599.3 | Nefl           | ENSRNOG0000013658 | neurofilament light Source RGD Symbol Acc 621458                                      |
| D05      | SBR1216062 | ENSRNOT00000044972.6 | Nfasc          | ENSRNOG0000030515 | neurofascin Source RGD Symbol Acc 620911                                              |
| D06      | SBR1175072 | ENSRNOT00000041394.3 | Nr4a2          | ENSRNOG0000005600 | nuclear receptor subfamily 4, group A, member 2 Source RGD Symbol Acc 3202            |
| D07      | SBR1191888 | ENSRNOT00000031205.5 | Nrxn3          | ENSRNOG0000047574 | neurexin 3 Source RGD Symbol Acc 620212                                               |
| D08      | SBR1209794 | ENSRNOT00000006361.6 | Nsf            | ENSRNOG0000003905 | N-ethylmaleimide sensitive factor, vesicle fusing ATPase Source RGD Symbol Acc 621594 |
| D09      | SBR1098919 | ENSRNOT00000008030.7 | Nsg1           | ENSRNOG0000005700 | neuronal vesicle trafficking associated 1 Source RGD Symbol Acc 2222                  |
| D10      | SBR1097948 | ENSRNOT00000009014.1 | Ntrk2          | ENSRNOG0000018839 | neurotrophic receptor tyrosine kinase 2 Source RGD Symbol Acc 3213                    |
| D11      | SBR1161494 | ENSRNOT00000002343.7 | Opa1           | ENSRNOG0000001717 | OPA1, mitochondrial dynamin like GTPase Source RGD Symbol Acc 708423                  |
| D12      | SBR1112097 | ENSRNOT00000050792.4 | Pan2           | ENSRNOG0000032441 | poly(A) specific ribonuclease subunit PAN2 Source RGD Symbol Acc 1303301              |
| E01      | SBR1204540 | ENSRNOT00000086127.1 | AABR07001519.1 | ENSRNOG0000055547 |                                                                                       |
| E02      | SBR1103935 | ENSRNOT00000087402.1 | Park7          | ENSRNOG0000018289 | Parkinsonism associated deglycase Source RGD Symbol Acc 621808                        |
| E03      | SBR1213570 | ENSRNOT00000083474.1 | Pink1          | ENSRNOG0000015385 | PTEN induced putative kinase 1 Source RGD Symbol Acc 1305769                          |
| E04      | SBR1201432 | ENSRNOT00000037890.4 | Ppid           | ENSRNOG0000027408 | peptidylprolyl isomerase D Source RGD Symbol Acc 1303174                              |
| E05      | SBR1163483 | ENSRNOT00000064290.2 | Ppp2r1b        | ENSRNOG0000010922 | protein phosphatase 2 scaffold subunit A beta Source RGD Symbol Acc 1304764           |
| E06      | SBR1150356 | ENSRNOT00000004799.5 | Prdx2          | ENSRNOG0000003520 | peroxiredoxin 2 Source RGD Symbol Acc 3838                                            |
| E07      | SBR1213143 | ENSRNOT00000040203.4 | Psen2          | ENSRNOG0000002879 | presenilin 2 Source RGD Symbol Acc 621060                                             |
| E08      | SBR1174124 | ENSRNOT00000028143.3 | Pten           | ENSRNOG0000020723 | phosphatase and tensin homolog Source RGD Symbol Acc 61995                            |
| E09      | SBR1188981 | ENSRNOT00000003774.2 | Rgs4           | ENSRNOG0000002773 | regulator of G-protein signaling 4 Source RGD Symbol Acc 3567                         |
| E10      | SBR1173981 | ENSRNOT00000072262.3 | Rtn1           | ENSRNOG0000004794 | reticulin 1 Source RGD Symbol Acc 620986                                              |
| E11      | SBR1099560 | ENSRNOT00000001743.2 | S100b          | ENSRNOG0000001295 | S100 calcium binding protein B Source RGD Symbol Acc 3615                             |
| E12      | SBR1097884 | ENSRNOT00000007676.7 | Skp1           | ENSRNOG0000005828 | S-phase kinase-associated protein 1 Source RGD Symbol Acc 1359648                     |
| F01      | SBR1174145 | ENSRNOT00000011983.2 | Slc18a2        | ENSRNOG0000008890 | solute carrier family 18 member A2 Source RGD Symbol Acc 3694                         |
| F02      | SBR1180410 | ENSRNOT00000014704.4 | Slc25a4        | ENSRNOG0000010830 | solute carrier family 25 member 4 Source RGD Symbol Acc 620352                        |
| F03      | SBR1109116 | ENSRNOT00000040291.1 | Slc6a3         | ENSRNOG0000017302 | solute carrier family 6 member 3 Source RGD Symbol Acc 3715                           |
| F04      | SBR1125719 | ENSRNOT00000035415.6 | Slit1          | ENSRNOG0000026065 | slit guidance ligand 1 Source RGD Symbol Acc 69307                                    |
| F05      | SBR1121544 | ENSRNOT00000039247.4 | Snca           | ENSRNOG0000008656 | synuclein alpha Source RGD Symbol Acc 3729                                            |
| F06      | SBR1202782 | ENSRNOT00000055791.5 | Spen           | ENSRNOG0000033556 | spen family transcriptional repressor Source RGD Symbol Acc 1589867                   |
| F07      | SBR1188851 | ENSRNOT00000038448.5 | Srsf7          | ENSRNOG0000027360 | serine and arginine rich splicing factor 7 Source RGD Symbol Acc 1307425              |
| F08      | SBR1163016 | ENSRNOT00000026921.6 | Stub1          | ENSRNOG0000019798 | STIP1 homology and U-box containing protein 1 Source RGD Symbol Acc 1306167           |
| F09      | SBR1212119 | ENSRNOT00000076087.1 | AC126641.1     | ENSRNOG0000011160 | synaptic vesicle glycoprotein 2b Source NCBI gene Acc 117556                          |
| F10      | SBR1136985 | ENSRNOT00000017833.5 | Syngn3         | ENSRNOG0000012620 | synaptogyrin 3 Source RGD Symbol Acc 1311801                                          |
|          |            |                      |                |                   |                                                                                       |

| Position | Assay      | Name                 | Symbol | Ensembl ID         | Description                                                                                             |
|----------|------------|----------------------|--------|--------------------|---------------------------------------------------------------------------------------------------------|
| F11      | SBR1160987 | ENSRNOT00000048880.2 | Syt1   | ENSRNOG00000006426 | synaptotagmin 1 Source RGD Symbol Acc 3803                                                              |
| F12      | SBR1121619 | ENSRNOT00000027474.3 | Syt11  | ENSRNOG0000020279  | synaptotagmin 11 Source RGD Symbol Acc 62042                                                            |
| G01      | SBR1184563 | ENSRNOT00000019681.6 | Tcf7l2 | ENSRNOG0000049232  | transcription factor 7 like 2 Source RGD Symbol Acc 1583621                                             |
| G02      | SBR1110132 | ENSRNOT00000027682.5 | Th     | ENSRNOG0000020410  | tyrosine hydroxylase Source RGD Symbol Acc 3853                                                         |
| G03      | SBR1178172 | ENSRNOT00000014326.2 | Tpbp   | ENSRNOG0000010694  | trophoblast glycoprotein Source RGD Symbol Acc 621453                                                   |
| G04      | SBR1193881 | ENSRNOT00000031115.4 | Uba1   | ENSRNOG0000019164  | ubiquitin-like modifier activating enzyme 1 Source RGD Symbol Acc 1359327                               |
| G05      | SBR1139956 | ENSRNOT00000066885.3 | Ubb    | ENSRNOG0000042271  | ubiquitin B Source RGD Symbol Acc 621562                                                                |
| G06      | SBR1163111 | ENSRNOT00000024406.6 | Ube2i  | ENSRNOG0000017907  | ubiquitin-conjugating enzyme E2I Source RGD Symbol Acc 3926                                             |
| G07      | SBR1156640 | ENSRNOT00000030485.5 | Ube2k  | ENSRNOG0000027088  | ubiquitin-conjugating enzyme E2K Source RGD Symbol Acc 1311626                                          |
| G08      | SBR1192749 | ENSRNOT00000046159.4 | Ube2l3 | ENSRNOG000001862   | ubiquitin-conjugating enzyme E2L 3 Source RGD Symbol Acc 1308361                                        |
| G09      | SBR1133680 | ENSRNOT00000003248.5 | Uchl1  | ENSRNOG0000002343  | ubiquitin C-terminal hydrolase L1 Source RGD Symbol Acc 3928                                            |
| G10      | SBR1093822 | ENSRNOT00000025081.5 | Vamp1  | ENSRNOG0000019219  | vesicle-associated membrane protein 1 Source RGD Symbol Acc 3948                                        |
| G11      | SBR1207832 | ENSRNOT00000026197.6 | Vdac3  | ENSRNOG0000019277  | voltage-dependent anion channel 3 Source RGD Symbol Acc 621577                                          |
| G12      | SBR1172173 | ENSRNOT00000080676.1 | Ywhaz  | ENSRNOG0000008195  | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta Source RGD Symbol Acc 3980 |
| 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 $\mu$ 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.

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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