

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

## Human MYC Targets

Cat. no. 249950 SBHS-177ZR

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 | AJMP2  | APEX1  | ATF4   | BAX   | BCAT1  | CAD   | CBX3  | CCNB1 | CCND2  | CCT5    | CDC25A    | CDK4    |
| B | CDKN1B | CDKN2B | CHEK1  | CKS2  | YBX3   | CSDE1 | CSTB  | CTSC  | DDX10  | DDX39B  | DKC1      | E2F1    |
| C | EIF4A1 | EIF4B  | EIF4E  | ENO1  | EXOSC8 | FASN  | GCLC  | GNL3  | HK2    | HNRNPA1 | HNRNPA2B1 | ID3     |
| D | ILK    | ITGB1  | LTA4H  | MAT2A | MAX    | MAZ   | MGST1 | MSH2  | MTHFD1 | MYC     | MYCL      | MYCN    |
| E | NAP1L1 | NBN    | NCL    | NME1  | NOLC1  | NPM1  | ODC1  | PA2G4 | PAICS  | PCNA    | PDK1      | PHB     |
| F | PIAS2  | POLD2  | PPAT   | PTPA  | PSMG1  | PTEN  | PYCR1 | RPL13 | RPL19  | RPL23   | RPL27A    | RPL5    |
| G | RPS5   | SHMT1  | SNRNPB | SRM   | SRSF1  | TERT  | TOP1  | TP53  | TPH1   | TYMS    | UBE2C     | ZFP36L1 |
| H | ACTB   | B2M    | GAPDH  | HPRT1 | RPLP0  | HGDC  | QIC   | QIC   | QIC    | PPC     | PPC       | PPC     |

## Gene table: QuantiNova LNA PCR Focus Panel

| Position | Assay      | Name               | Symbol   | Ensembl ID      | Description                                                                                                       |
|----------|------------|--------------------|----------|-----------------|-------------------------------------------------------------------------------------------------------------------|
| A01      | SBH0570869 | ENST00000400479.6  | AIMP2    | ENSG00000106305 | aminoacyl tRNA synthetase complex interacting multifunctional protein 2 Source HGNC Symbol Acc HGNC 20609         |
| A02      | SBH0279561 | ENST00000555414.5  | APEX1    | ENSG00000100823 | apurinic/apyrimidinic endodeoxyribonuclease 1 Source HGNC Symbol Acc HGNC 587                                     |
| A03      | SBH1219754 | ENST00000404241.6  | ATF4     | ENSG00000128272 | activating transcription factor 4 Source HGNC Symbol Acc HGNC 786                                                 |
| A04      | SBH1219783 | ENST00000391871.4  | BAX      | ENSG00000087088 | BCL2 associated X, apoptosis regulator Source HGNC Symbol Acc HGNC 959                                            |
| A05      | SBH0441341 | ENST00000544418.1  | BCAT1    | ENSG00000060982 | branched chain amino acid transaminase 1 Source HGNC Symbol Acc HGNC 976                                          |
| A06      | SBH0040523 | ENST00000491891.1  | CAD      | ENSG00000084774 | carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase Source HGNC Symbol Acc HGNC 1424 |
| A07      | SBH0226710 | ENST00000462165.2  | CBX3     | ENSG00000122565 | chromobox 3 Source HGNC Symbol Acc HGNC 1553                                                                      |
| A08      | SBH1219842 | ENST00000256442.10 | CCNB1    | ENSG00000134057 | cyclin B1 Source HGNC Symbol Acc HGNC 1579                                                                        |
| A09      | SBH1219845 | ENST00000261254.8  | CCND2    | ENSG00000118971 | cyclin D2 Source HGNC Symbol Acc HGNC 1583                                                                        |
| A10      | SBH0482048 | ENST00000625723.1  | CCT5     | ENSG00000150753 | chaperonin containing TCP1 subunit 5 Source HGNC Symbol Acc HGNC 1618                                             |
| A11      | SBH0437013 | ENST00000302506.7  | CDC25A   | ENSG00000164045 | cell division cycle 25A Source HGNC Symbol Acc HGNC 1725                                                          |
| A12      | SBH1219873 | ENST00000547281.5  | CDK4     | ENSG00000135446 | cyclin dependent kinase 4 Source HGNC Symbol Acc HGNC 1773                                                        |
| B01      | SBH1219879 | ENST00000442489.1  | CDKN1B   | ENSG00000111276 | cyclin dependent kinase inhibitor 1B Source HGNC Symbol Acc HGNC 1785                                             |
| B02      | SBH1219880 | ENST00000276925.7  | CDKN2B   | ENSG00000147883 | cyclin dependent kinase inhibitor 2B Source HGNC Symbol Acc HGNC 1788                                             |
| B03      | SBH1219885 | ENST00000534070.5  | CHEK1    | ENSG00000149554 | checkpoint kinase 1 Source HGNC Symbol Acc HGNC 1925                                                              |
| B04      | SBH0514674 | ENST00000314355.7  | CKS2     | ENSG00000123975 | CDC28 protein kinase regulatory subunit 2 Source HGNC Symbol Acc HGNC 2000                                        |
| B05      | SBH0354946 | ENST00000542641.5  | YBX3     | ENSG00000060138 | Y-box binding protein 3 Source HGNC Symbol Acc HGNC 2428                                                          |
| B06      | SBH0601361 | ENST00000483030.1  | CSDE1    | ENSG00000009307 | cold shock domain containing E1 Source HGNC Symbol Acc HGNC 29905                                                 |
| B07      | SBH0397711 | ENST00000640406.1  | CSTB     | ENSG00000160213 | cystatin B Source HGNC Symbol Acc HGNC 2482                                                                       |
| B08      | SBH0092572 | ENST00000533865.5  | CTSC     | ENSG00000109861 | cathepsin C Source HGNC Symbol Acc HGNC 2528                                                                      |
| B09      | SBH0624263 | ENST00000526794.1  | DDX10    | ENSG00000178105 | DEAD-box helicase 10 Source HGNC Symbol Acc HGNC 2735                                                             |
| B10      | SBH0376199 | ENST00000456662.5  | DDX39B   | ENSG00000198563 | DEXD-box helicase 39B Source HGNC Symbol Acc HGNC 13917                                                           |
| B11      | SBH1219951 | ENST00000369550.10 | DKC1     | ENSG00000130826 | dyskerin pseudouridine synthase 1 Source HGNC Symbol Acc HGNC 2890                                                |
| B12      | SBH1219965 | ENST00000343380.6  | E2F1     | ENSG00000101412 | E2F transcription factor 1 Source HGNC Symbol Acc HGNC 3113                                                       |
| C01      | SBH0046966 | ENST00000581770.5  | EIF4A1   | ENSG00000161960 | eukaryotic translation initiation factor 4A1 Source HGNC Symbol Acc HGNC 3282                                     |
| C02      | SBH0328103 | ENST00000549077.5  | EIF4B    | ENSG00000063046 | eukaryotic translation initiation factor 4B Source HGNC Symbol Acc HGNC 3285                                      |
| C03      | SBH0565938 | ENST00000505992.1  | EIF4E    | ENSG00000151247 | eukaryotic translation initiation factor 4E Source HGNC Symbol Acc HGNC 3287                                      |
| C04      | SBH0555349 | ENST00000234590.10 | ENO1     | ENSG00000074800 | enolase 1 Source HGNC Symbol Acc HGNC 3350                                                                        |
| C05      | SBH0289281 | ENST00000490537.6  | EXOSC8   | ENSG00000120699 | exosome component 8 Source HGNC Symbol Acc HGNC 17035                                                             |
| C06      | SBH0282662 | ENST00000635197.1  | FASN     | ENSG00000169710 | fatty acid synthase Source HGNC Symbol Acc HGNC 3594                                                              |
| C07      | SBH0482856 | ENST00000229416.10 | GCLC     | ENSG00000001084 | glutamate-cysteine ligase catalytic subunit Source HGNC Symbol Acc HGNC 4311                                      |
| C08      | SBH0020735 | ENST00000492349.5  | GNL3     | ENSG00000163938 | G protein nucleolar 3 Source HGNC Symbol Acc HGNC 29931                                                           |
| C09      | SBH0186371 | ENST00000290573.6  | HK2      | ENSG00000159399 | hexokinase 2 Source HGNC Symbol Acc HGNC 4923                                                                     |
| C10      | SBH0294681 | ENST00000551803.1  | HNRNPA1  | ENSG00000135486 | heterogeneous nuclear ribonucleoprotein A1 Source HGNC Symbol Acc HGNC 5031                                       |
|          |            | ENST0000030360     | HNRNPA2B | ENSG000000      | heterogeneous nuclear ribonucleoprotein A2/B1 Source HGNC Symbol Acc                                              |

| Position | Assay      | Name               | Symbol | Ensembl ID      | Description                                                                                                                           |
|----------|------------|--------------------|--------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------|
| C11      | SBH0271357 | 787.8              | 1      | 122566          | HGNC 5033                                                                                                                             |
| C12      | SBH0013538 | ENST00000374561.6  | ID3    | ENSG00000117318 | inhibitor of DNA binding 3, HLH protein Source HGNC Symbol Acc HGNC 5362                                                              |
| D01      | SBH0381135 | ENST00000299421.8  | ILK    | ENSG00000166333 | integrin linked kinase Source HGNC Symbol Acc HGNC 6040                                                                               |
| D02      | SBH1220136 | ENST00000302278.8  | ITGB1  | ENSG00000150093 | integrin subunit beta 1 Source HGNC Symbol Acc HGNC 6153                                                                              |
| D03      | SBH0244991 | ENST00000552789.5  | LTA4H  | ENSG00000111144 | leukotriene A4 hydrolase Source HGNC Symbol Acc HGNC 6710                                                                             |
| D04      | SBH0001344 | ENST00000306434.8  | MAT2A  | ENSG00000168906 | methionine adenosyltransferase 2A Source HGNC Symbol Acc HGNC 6904                                                                    |
| D05      | SBH0511192 | ENST00000554709.1  | MAX    | ENSG00000125952 | MYC associated factor X Source HGNC Symbol Acc HGNC 6913                                                                              |
| D06      | SBH0359074 | ENST00000562337.5  | MAZ    | ENSG00000103495 | MYC associated zinc finger protein Source HGNC Symbol Acc HGNC 6914                                                                   |
| D07      | SBH0489479 | ENST00000396210.8  | MGST1  | ENSG00000008394 | microsomal glutathione S-transferase 1 Source HGNC Symbol Acc HGNC 7061                                                               |
| D08      | SBH1220228 | ENST00000233146.6  | MSH2   | ENSG00000095002 | mutS homolog 2 Source HGNC Symbol Acc HGNC 7325                                                                                       |
| D09      | SBH0408243 | ENST00000553391.2  | MTHFD1 | ENSG00000100714 | methylenetetrahydrofolate dehydrogenase, cyclohydrolase and formyltetrahydrofolate synthetase 1 Source HGNC Symbol Acc HGNC 7432      |
| D10      | SBH0426145 | ENST00000524013.1  | MYC    | ENSG00000136997 | MYC proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7553                                                        |
| D11      | SBH0094042 | ENST00000450953.3  | MYCL   | ENSG00000116990 | MYCL proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7555                                                       |
| D12      | SBH0020367 | ENST00000281043.4  | MYCN   | ENSG00000134323 | MYCN proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7559                                                       |
| E01      | SBH0513784 | ENST00000548044.5  | NAP1L1 | ENSG00000187109 | nucleosome assembly protein 1 like 1 Source HGNC Symbol Acc HGNC 7637                                                                 |
| E02      | SBH0220644 | ENST00000265433.7  | NBN    | ENSG00000104320 | nibrin Source HGNC Symbol Acc HGNC 7652                                                                                               |
| E03      | SBH0569167 | ENST00000322723.9  | NCL    | ENSG00000115053 | nucleolin Source HGNC Symbol Acc HGNC 7667                                                                                            |
| E04      | SBH0310094 | ENST00000512768.1  | NME1   | ENSG00000239672 | NME/NM23 nucleoside diphosphate kinase 1 Source HGNC Symbol Acc HGNC 7849                                                             |
| E05      | SBH0625541 | ENST00000405356.5  | NOLC1  | ENSG00000166197 | nucleolar and coiled-body phosphoprotein 1 Source HGNC Symbol Acc HGNC 15608                                                          |
| E06      | SBH0422996 | ENST00000521672.5  | NPM1   | ENSG00000181163 | nucleophosmin 1 Source HGNC Symbol Acc HGNC 7910                                                                                      |
| E07      | SBH0286890 | ENST00000405333.5  | ODC1   | ENSG00000115758 | ornithine decarboxylase 1 Source HGNC Symbol Acc HGNC 8109                                                                            |
| E08      | SBH0578804 | ENST00000552766.5  | PA2G4  | ENSG00000170515 | proliferation-associated 2G4 Source HGNC Symbol Acc HGNC 8550                                                                         |
| E09      | SBH0371980 | ENST00000505164.5  | PAICS  | ENSG00000128050 | phosphoribosylaminoimidazole carboxylase and phosphoribosylaminoimidazolesuccinocarboxamide synthase Source HGNC Symbol Acc HGNC 8587 |
| E10      | SBH0251688 | ENST000003379160.3 | PCNA   | ENSG00000132646 | proliferating cell nuclear antigen Source HGNC Symbol Acc HGNC 8729                                                                   |
| E11      | SBH0017980 | ENST00000410055.5  | PDK1   | ENSG00000152256 | pyruvate dehydrogenase kinase 1 Source HGNC Symbol Acc HGNC 8809                                                                      |
| E12      | SBH0278551 | ENST00000504124.5  | PHB    | ENSG00000167085 | prohibitin Source HGNC Symbol Acc HGNC 8912                                                                                           |
| F01      | SBH0433845 | ENST00000592212.5  | PIAS2  | ENSG00000078043 | protein inhibitor of activated STAT 2 Source HGNC Symbol Acc HGNC 17311                                                               |
| F02      | SBH0641893 | ENST00000610533.4  | POLD2  | ENSG00000106628 | DNA polymerase delta 2, accessory subunit Source HGNC Symbol Acc HGNC 9176                                                            |
| F03      | SBH0281159 | ENST00000507724.1  | PPAT   | ENSG00000128059 | phosphoribosyl pyrophosphate amidotransferase Source HGNC Symbol Acc HGNC 9238                                                        |
| F04      | SBH0230240 | ENST00000434095.2  | PTPA   | ENSG00000119383 | protein phosphatase 2 phosphatase activator Source HGNC Symbol Acc HGNC 9308                                                          |
| F05      | SBH0160012 | ENST00000411828.5  | PSMG1  | ENSG00000183527 | proteasome assembly chaperone 1 Source HGNC Symbol Acc HGNC 3043                                                                      |
| F06      | SBH1225378 | ENST00000371953.8  | PTEN   | ENSG00000171862 | phosphatase and tensin homolog Source HGNC Symbol Acc HGNC 9588                                                                       |
| F07      | SBH0275904 | ENST00000579366.5  | PYCR1  | ENSG00000183010 | pyrroline-5-carboxylate reductase 1 Source HGNC Symbol Acc HGNC 9721                                                                  |
| F08      | SBH0525373 | ENST00000563270.5  | RPL13  | ENSG00000167526 | ribosomal protein L13 Source HGNC Symbol Acc HGNC 10303                                                                               |
| F09      | SBH0477446 | ENST00000585199.1  | RPL19  | ENSG00000108298 | ribosomal protein L19 Source HGNC Symbol Acc HGNC 10312                                                                               |
| F10      | SBH0441642 | ENST00000394       | RPL23  | ENSG000000      | ribosomal protein L23 Source HGNC Symbol Acc HGNC 10316                                                                               |

| Position | Assay      | Name               | Symbol  | Ensembl ID      | Description                                                                             |
|----------|------------|--------------------|---------|-----------------|-----------------------------------------------------------------------------------------|
|          |            | 332.5              |         | 125691          |                                                                                         |
| F11      | SBH0138327 | ENST00000525981.1  | RPL27A  | ENSG00000166441 | ribosomal protein L27a Source HGNC Symbol Acc HGNC 10329                                |
| F12      | SBH0472278 | ENST00000645300.1  | RPL5    | ENSG00000122406 | ribosomal protein L5 Source HGNC Symbol Acc HGNC 10360                                  |
| G01      | SBH0034970 | ENST00000598807.1  | RPS5    | ENSG00000083845 | ribosomal protein S5 Source HGNC Symbol Acc HGNC 10426                                  |
| G02      | SBH0578141 | ENST00000579558.5  | SHMT1   | ENSG00000176974 | serine hydroxymethyltransferase 1 Source HGNC Symbol Acc HGNC 10850                     |
| G03      | SBH0221189 | ENST00000381342.6  | SNRPB   | ENSG00000125835 | small nuclear ribonucleoprotein polypeptides B and B1 Source HGNC Symbol Acc HGNC 11153 |
| G04      | SBH0333664 | ENST00000376957.7  | SRM     | ENSG00000116649 | spermidine synthase Source HGNC Symbol Acc HGNC 11296                                   |
| G05      | SBH0326873 | ENST00000583741.1  | SRSF1   | ENSG00000136450 | serine and arginine rich splicing factor 1 Source HGNC Symbol Acc HGNC 10780            |
| G06      | SBH0606096 | ENST00000334602.10 | TERT    | ENSG00000164362 | telomerase reverse transcriptase Source HGNC Symbol Acc HGNC 11730                      |
| G07      | SBH0634119 | ENST00000361337.3  | TOP1    | ENSG00000198900 | DNA topoisomerase I Source HGNC Symbol Acc HGNC 11986                                   |
| G08      | SBH1220486 | ENST00000445888.6  | TP53    | ENSG00000141510 | tumor protein p53 Source HGNC Symbol Acc HGNC 11998                                     |
| G09      | SBH1220489 | ENST00000613953.4  | TP11    | ENSG00000175063 | triosephosphate isomerase 1 Source HGNC Symbol Acc HGNC 12009                           |
| G10      | SBH0299788 | ENST00000323250.9  | TYMS    | ENSG00000176890 | thymidylate synthetase Source HGNC Symbol Acc HGNC 12441                                |
| G11      | SBH0549489 | ENST00000243893.10 | UBE2C   | ENSG00000175063 | ubiquitin conjugating enzyme E2 C Source HGNC Symbol Acc HGNC 15937                     |
| G12      | SBH0346152 | ENST00000439696.2  | ZFP36L1 | ENSG00000185650 | ZFP36 ring finger protein like 1 Source HGNC Symbol Acc HGNC 1107                       |
| H01      | SBH1220543 | ENST00000646664.1  | ACTB    | ENSG00000075624 | actin beta Source HGNC Symbol Acc HGNC 132                                              |
| H02      | SBH1220550 | ENST00000558401.6  | B2M     | ENSG00000166710 | beta-2-microglobulin Source HGNC Symbol Acc HGNC 914                                    |
| H03      | SBH1220545 | ENST00000396861.5  | GAPDH   | ENSG00000111640 | glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141               |
| H04      | SBH1220546 | ENST00000298556.8  | HPRT1   | ENSG00000165704 | hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157               |
| H05      | SBH1220553 | ENST00000546989.5  | RPLP0   | ENSG00000089157 | ribosomal protein lateral stalk subunit P0 Source HGNC Symbol Acc HGNC 10371            |
| H06      | SBH1218553 | Sybr_HGDC          | HGDC    | Sybr_HGDC       | Human 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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