

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

## Human WNT Signaling Targets

Cat. no. 249950 SBHS-243ZA

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 | ABC81 | AHR    | ANGPTL4 | ANTXR1 | AXIN2 | BGLAP  | BIRC5 | BMP4  | BTRC   | CACNA2D3 | CCND1 | CCND2  |
| B | CD44  | CDH1   | CDKN2A  | CDON   | CEBPD | CCN2   | CUBN  | DAB2  | DKK1   | DLK1     | DPP10 | EFNB1  |
| C | EGFR  | EGR1   | ETS2    | FGF20  | FGF4  | FGF7   | FGF9  | FN1   | FOSL1  | FST      | FZD7  | GDF5   |
| D | GDNF  | GJA1   | ID2     | IGF1   | IGF2  | IL6    | IRS1  | JAG1  | KLF5   | LEF1     | LRP1  | MET    |
| E | MMP2  | MMP7   | MMP9    | MYC    | NANOG | NRCAM  | NRP1  | NTRK2 | PDGFRA | PITX2    | PLAUR | POU5F1 |
| F | PLPP3 | PPARD  | PTCH1   | PTGS2  | RUNX2 | SFRP2  | SIX1  | SMO   | SOX2   | SOX9     | TBXT  | TCF4   |
| G | TCF7  | TCF7L1 | TCF7L2  | TGFB3  | TLE1  | TWIST1 | VEGFA | CCN4  | CCN5   | WNT3A    | WNT5A | WNT9A  |
| 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      | SBH0346091 | ENST00000622132.4  | ABCB1    | ENSG00000085563  | ATP binding cassette subfamily B member 1 Source HGNC Symbol Acc HGNC 40                        |
| A02      | SBH0503529 | ENST00000492120.1  | AHR      | ENSG00000106546  | aryl hydrocarbon receptor Source HGNC Symbol Acc HGNC 348                                       |
| A03      | SBH0321217 | ENST00000393962.6  | ANGPTL4  | ENSG00000167772  | angiopoietin like 4 Source HGNC Symbol Acc HGNC 16039                                           |
| A04      | SBH0194758 | ENST00000497197.3  | ANTXR1   | ENSG00000169604  | ANTXR cell adhesion molecule 1 Source HGNC Symbol Acc HGNC 21014                                |
| A05      | SBH0541946 | ENST00000578251.1  | AXIN2    | ENSG00000168646  | axin 2 Source HGNC Symbol Acc HGNC 904                                                          |
| A06      | SBH1219793 | ENST00000368272.5  | BGLAP    | ENSG00000242252  | bone gamma-carboxyglutamate protein Source HGNC Symbol Acc HGNC 1043                            |
| A07      | SBH1219797 | ENST00000301633.8  | BIRC5    | ENSG00000089685  | baculoviral IAP repeat containing 5 Source HGNC Symbol Acc HGNC 593                             |
| A08      | SBH0613995 | ENST00000417573.5  | BMP4     | ENSG00000125378  | bone morphogenetic protein 4 Source HGNC Symbol Acc HGNC 1071                                   |
| A09      | SBH1219819 | ENST00000393441.8  | BTRC     | ENSG00000166167  | beta-transducin repeat containing E3 ubiquitin protein ligase Source HGNC Symbol Acc HGNC 1144  |
| A10      | SBH0267982 | ENST00000468658.1  | CACNA2D3 | ENSG00000157445  | calcium voltage-gated channel auxiliary subunit alpha2delta 3 Source HGNC Symbol Acc HGNC 15460 |
| A11      | SBH0434090 | ENST00000227507.2  | CCND1    | ENSG00000110092  | cyclin D1 Source HGNC Symbol Acc HGNC 1582                                                      |
| A12      | SBH1219845 | ENST00000261254.8  | CCND2    | ENSG00000118971  | cyclin D2 Source HGNC Symbol Acc HGNC 1583                                                      |
| B01      | SBH0074994 | ENST00000428726.7  | CD44     | ENSG00000026508  | CD44 molecule (Indian blood group) Source HGNC Symbol Acc HGNC 1681                             |
| B02      | SBH1219869 | ENST00000261769.10 | CDH1     | ENSG000000039068 | cadherin 1 Source HGNC Symbol Acc HGNC 1748                                                     |
| B03      | SBH0349548 | ENST00000304494.9  | CDKN2A   | ENSG00000147889  | cyclin dependent kinase inhibitor 2A Source HGNC Symbol Acc HGNC 1787                           |
| B04      | SBH0172539 | ENST00000527967.5  | CDON     | ENSG00000064309  | cell adhesion associated, oncogene regulated Source HGNC Symbol Acc HGNC 17104                  |
| B05      | SBH0227697 | ENST00000408965.3  | CEBPD    | ENSG00000221869  | CCAAT enhancer binding protein delta Source HGNC Symbol Acc HGNC 1835                           |
| B06      | SBH1219917 | ENST00000367976.4  | CCN2     | ENSG00000118523  | cellular communication network factor 2 Source HGNC Symbol Acc HGNC 2500                        |
| B07      | SBH0174779 | ENST00000438254.1  | CUBN     | ENSG00000107611  | cubilin Source HGNC Symbol Acc HGNC 2548                                                        |
| B08      | SBH1219940 | ENST00000545653.5  | DAB2     | ENSG00000153071  | DAB2, clathrin adaptor protein Source HGNC Symbol Acc HGNC 2662                                 |
| B09      | SBH0194476 | ENST00000373970.4  | DKK1     | ENSG00000107984  | dickkopf WNT signaling pathway inhibitor 1 Source HGNC Symbol Acc HGNC 2891                     |
| B10      | SBH0520266 | ENST00000650464.1  | DLK1     | ENSG00000185559  | delta like non-canonical Notch ligand 1 Source HGNC Symbol Acc HGNC 2907                        |
| B11      | SBH0294547 | ENST00000486885.5  | DPP10    | ENSG00000175497  | dipeptidyl peptidase like 10 Source HGNC Symbol Acc HGNC 20823                                  |
| B12      | SBH0537762 | ENST00000204961.5  | EFNB1    | ENSG00000090776  | ephrin B1 Source HGNC Symbol Acc HGNC 3226                                                      |
| C01      | SBH1219970 | ENST00000454757.6  | EGFR     | ENSG00000146648  | epidermal growth factor receptor Source HGNC Symbol Acc HGNC 3236                               |
| C02      | SBH0290504 | ENST00000239938.5  | EGR1     | ENSG00000120738  | early growth response 1 Source HGNC Symbol Acc HGNC 3238                                        |
| C03      | SBH1219986 | ENST00000432278.5  | ETS2     | ENSG00000157557  | ETS proto-oncogene 2, transcription factor Source HGNC Symbol Acc HGNC 3489                     |
| C04      | SBH0645807 | ENST00000180166.6  | FGF20    | ENSG00000078579  | fibroblast growth factor 20 Source HGNC Symbol Acc HGNC 3677                                    |
| C05      | SBH0110848 | ENST00000168712.3  | FGF4     | ENSG00000075388  | fibroblast growth factor 4 Source HGNC Symbol Acc HGNC 3682                                     |
| C06      | SBH0051743 | ENST00000560979.1  | FGF7     | ENSG00000140285  | fibroblast growth factor 7 Source HGNC Symbol Acc HGNC 3685                                     |
| C07      | SBH0087968 | ENST00000461657.1  | FGF9     | ENSG00000102678  | fibroblast growth factor 9 Source HGNC Symbol Acc HGNC 3687                                     |
| C08      | SBH1220003 | ENST00000354785.9  | FN1      | ENSG00000115414  | fibronectin 1 Source HGNC Symbol Acc HGNC 3778                                                  |
| C09      | SBH1220005 | ENST00000532401.1  | FOSL1    | ENSG00000175592  | FOS like 1, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 13718                 |
| C10      | SBH0665825 | ENST00000396947.7  | FST      | ENSG00000134363  | follicle-stimulating hormone receptor Source HGNC Symbol Acc HGNC 3971                          |
|          |            | ENST00000286       |          | ENSG000000       |                                                                                                 |

| Position | Assay      | Name               | Symbol | Ensembl ID      | Description                                                                       |
|----------|------------|--------------------|--------|-----------------|-----------------------------------------------------------------------------------|
| C11      | SBH0357958 | 201.2              | FZD7   | 155760          | frizzled class receptor 7 Source HGNC Symbol Acc HGNC 4045                        |
| C12      | SBH1220027 | ENST00000374372.1  | GDF5   | ENSG00000125965 | growth differentiation factor 5 Source HGNC Symbol Acc HGNC 4220                  |
| D01      | SBH0310916 | ENST00000502572.1  | GDNF   | ENSG00000168621 | glial cell derived neurotrophic factor Source HGNC Symbol Acc HGNC 4232           |
| D02      | SBH0022905 | ENST00000282561.4  | GJA1   | ENSG00000152661 | gap junction protein alpha 1 Source HGNC Symbol Acc HGNC 4274                     |
| D03      | SBH0320623 | ENST00000234091.8  | ID2    | ENSG00000115738 | inhibitor of DNA binding 2 Source HGNC Symbol Acc HGNC 5361                       |
| D04      | SBH1220091 | ENST00000337514.10 | IGF1   | ENSG00000017427 | insulin like growth factor 1 Source HGNC Symbol Acc HGNC 5464                     |
| D05      | SBH0264962 | ENST00000418738.2  | IGF2   | ENSG00000167244 | insulin like growth factor 2 Source HGNC Symbol Acc HGNC 5466                     |
| D06      | SBH1220111 | ENST00000401630.7  | IL6    | ENSG00000136244 | interleukin 6 Source HGNC Symbol Acc HGNC 6018                                    |
| D07      | SBH0130188 | ENST00000305123.5  | IRS1   | ENSG00000169047 | insulin receptor substrate 1 Source HGNC Symbol Acc HGNC 6125                     |
| D08      | SBH0407654 | ENST00000254958.10 | JAG1   | ENSG00000101384 | jagged 1 Source HGNC Symbol Acc HGNC 6188                                         |
| D09      | SBH0594449 | ENST00000377687.6  | KLF5   | ENSG00000102554 | Kruppel like factor 5 Source HGNC Symbol Acc HGNC 6349                            |
| D10      | SBH1220167 | ENST00000265165.6  | LEF1   | ENSG00000138795 | lymphoid enhancer binding factor 1 Source HGNC Symbol Acc HGNC 6551               |
| D11      | SBH0296428 | ENST00000243077.7  | LRP1   | ENSG00000123384 | LDL receptor related protein 1 Source HGNC Symbol Acc HGNC 6692                   |
| D12      | SBH1220210 | ENST00000318493.11 | MET    | ENSG00000105976 | MET proto-oncogene, receptor tyrosine kinase Source HGNC Symbol Acc HGNC 7029     |
| E01      | SBH1220222 | ENST00000570308.5  | MMP2   | ENSG00000087245 | matrix metalloproteinase 2 Source HGNC Symbol Acc HGNC 7166                       |
| E02      | SBH1220224 | ENST00000260227.5  | MMP7   | ENSG00000137673 | matrix metalloproteinase 7 Source HGNC Symbol Acc HGNC 7174                       |
| E03      | SBH0471278 | ENST00000372330.3  | MMP9   | ENSG00000100985 | matrix metalloproteinase 9 Source HGNC Symbol Acc HGNC 7176                       |
| E04      | SBH0426145 | ENST00000524013.1  | MYC    | ENSG00000136997 | MYC proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7553    |
| E05      | SBH1225384 | ENST00000229307.9  | NANOG  | ENSG00000111704 | Nanog homeobox Source HGNC Symbol Acc HGNC 20857                                  |
| E06      | SBH0603284 | ENST00000413765.6  | NRCAM  | ENSG00000091129 | neuronal cell adhesion molecule Source HGNC Symbol Acc HGNC 7994                  |
| E07      | SBH1220281 | ENST00000374823.9  | NRP1   | ENSG00000099250 | neuropilin 1 Source HGNC Symbol Acc HGNC 8004                                     |
| E08      | SBH0629742 | ENST00000277120.7  | NTRK2  | ENSG00000148053 | neurotrophic receptor tyrosine kinase 2 Source HGNC Symbol Acc HGNC 8032          |
| E09      | SBH1220292 | ENST00000257290.10 | PDGFRA | ENSG00000134853 | platelet derived growth factor receptor alpha Source HGNC Symbol Acc HGNC 8803    |
| E10      | SBH0008517 | ENST00000306732.8  | PITX2  | ENSG00000164093 | paired like homeodomain 2 Source HGNC Symbol Acc HGNC 9005                        |
| E11      | SBH0270684 | ENST00000593939.5  | PLAUR  | ENSG00000011422 | plasminogen activator, urokinase receptor Source HGNC Symbol Acc HGNC 9053        |
| E12      | SBH1225387 | ENST00000513407.1  | POU5F1 | ENSG00000204531 | POU class 5 homeobox 1 Source HGNC Symbol Acc HGNC 9221                           |
| F01      | SBH0131913 | ENST00000371250.4  | PLPP3  | ENSG00000162407 | phospholipid phosphatase 3 Source HGNC Symbol Acc HGNC 9229                       |
| F02      | SBH1220323 | ENST00000418635.6  | PPARD  | ENSG00000112033 | peroxisome proliferator activated receptor delta Source HGNC Symbol Acc HGNC 9235 |
| F03      | SBH0360047 | ENST00000331920.10 | PTCH1  | ENSG00000185920 | patched 1 Source HGNC Symbol Acc HGNC 9585                                        |
| F04      | SBH1220344 | ENST00000367468.10 | PTGS2  | ENSG00000073756 | prostaglandin-endoperoxide synthase 2 Source HGNC Symbol Acc HGNC 9605            |
| F05      | SBH0662907 | ENST00000465038.6  | RUNX2  | ENSG00000124813 | runt related transcription factor 2 Source HGNC Symbol Acc HGNC 10472             |
| F06      | SBH0113874 | ENST00000274063.5  | SFRP2  | ENSG00000145423 | secreted frizzled related protein 2 Source HGNC Symbol Acc HGNC 10777             |
| F07      | SBH0045138 | ENST00000645694.2  | SIX1   | ENSG00000126778 | SIX homeobox 1 Source HGNC Symbol Acc HGNC 10887                                  |
| F08      | SBH0217804 | ENST00000462420.2  | SMO    | ENSG00000128602 | smoothened, frizzled class receptor Source HGNC Symbol Acc HGNC 11119             |
| F09      | SBH0499815 | ENST00000325404.3  | SOX2   | ENSG00000181449 | SRY-box 2 Source HGNC Symbol Acc HGNC 11195                                       |
| F10      | SBH0112513 | ENST00000245479.3  | SOX9   | ENSG00000125398 | SRY-box 9 Source HGNC Symbol Acc HGNC 11204                                       |

| Position | Assay      | Name              | Symbol | Ensembl ID      | Description                                                                        |
|----------|------------|-------------------|--------|-----------------|------------------------------------------------------------------------------------|
| F11      | SBH0142967 | ENST00000366871.7 | TBXT   | ENSG00000164458 | T-box transcription factor T Source HGNC Symbol Acc HGNC 11515                     |
| F12      | SBH0089633 | ENST00000356073.8 | TCF4   | ENSG00000196628 | transcription factor 4 Source HGNC Symbol Acc HGNC 11634                           |
| G01      | SBH0438163 | ENST00000517851.5 | TCF7   | ENSG00000081059 | transcription factor 7 Source HGNC Symbol Acc HGNC 11639                           |
| G02      | SBH1220436 | ENST00000282111.4 | TCF7L1 | ENSG00000152284 | transcription factor 7 like 1 Source HGNC Symbol Acc HGNC 11640                    |
| G03      | SBH0385754 | ENST00000355717.9 | TCF7L2 | ENSG00000148737 | transcription factor 7 like 2 Source HGNC Symbol Acc HGNC 11641                    |
| G04      | SBH0179529 | ENST00000238682.7 | TGFB3  | ENSG00000119699 | transforming growth factor beta 3 Source HGNC Symbol Acc HGNC 11769                |
| G05      | SBH1220459 | ENST00000376499.8 | TLE1   | ENSG00000196781 | TLE family member 1, transcriptional corepressor Source HGNC Symbol Acc HGNC 11837 |
| G06      | SBH1220496 | ENST00000242261.6 | TWIST1 | ENSG00000122691 | twist family bHLH transcription factor 1 Source HGNC Symbol Acc HGNC 12428         |
| G07      | SBH0420322 | ENST00000425836.6 | VEGFA  | ENSG00000112715 | vascular endothelial growth factor A Source HGNC Symbol Acc HGNC 12680             |
| G08      | SBH1220526 | ENST00000220856.6 | CCN4   | ENSG00000104415 | cellular communication network factor 4 Source HGNC Symbol Acc HGNC 12769          |
| G09      | SBH0641750 | ENST00000471629.1 | CCN5   | ENSG00000064205 | cellular communication network factor 5 Source HGNC Symbol Acc HGNC 12770          |
| G10      | SBH1220532 | ENST00000284523.2 | WNT3A  | ENSG00000154342 | Wnt family member 3A Source HGNC Symbol Acc HGNC 15983                             |
| G11      | SBH0548767 | ENST00000264634.8 | WNT5A  | ENSG00000114251 | Wnt family member 5A Source HGNC Symbol Acc HGNC 12784                             |
| G12      | SBH1220538 | ENST00000272164.6 | WNT9A  | ENSG00000143816 | Wnt family member 9A Source HGNC Symbol Acc HGNC 12778                             |
| 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 $\mu$ 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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