

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

## Human Cancer PathwayFinder™

Cat. no. 249955 UPHS-033ZR

For study focus gene expression analysis

### Shipping and storage

QuantiNova LNA Probe PCR Focus Panels are shipped at room temperature. Immediately upon receipt, they should be stored protected from light 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 Probe PCR Focus Panels should be used together with the QuantiNova Reverse Transcription Kit for cDNA synthesis and the QuantiNova Probe PCR Kit (Mastermix) for PCR.

### Panel layout (Rotor-Gene): QuantiNova LNA Probe 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 Probe PCR 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 | ACLY  | ACSL4    | ADM      | ANGPT1   | ANGPT2  | APAF1  | ARNT   | ATP5F1A | AURKA   | BCL2L11 | BIRC3 | BMJ1  |
| B | CA9   | CASP2    | CASP7    | CASP9    | CCL2    | CCND2  | CCND3  | CDC20   | CDH2    | CFLAR   | COX5A | CPT2  |
| C | DDB2  | DDIT3    | DKC1     | DSP      | E2F4    | EPO    | ERCC3  | ERCC5   | ETS2    | FASLG   | FGF2  | FLT1  |
| D | FOXC2 | G6PD     | GADD45G  | GPD2     | GSC     | HMOX1  | IGFBP3 | IGFBP5  | IGFBP7  | KDR     | KRT14 | LDHA  |
| E | LIG4  | LPL      | MAP2K1   | MAP2K3   | MAPK14  | MCM2   | MKI67  | NOL3    | OCLN    | PFKL    | PGF   | PINX1 |
| F | POLB  | PPP1R15A | SERPINB2 | SERPINF1 | SKP2    | SLC2A1 | SNAI1  | SNAI2   | SNAI3   | SOD1    | SOX10 | STMN1 |
| G | TBX2  | TEK      | TEP1     | TERF1    | TERF2IP | TINF2  | TNKS   | TNKS2   | UQCRF51 | VEGFC   | WEE1  | XIAP  |
| H | ACTB  | B2M      | GAPDH    | HPRT1    | RPLP0   | HGDC   | QIC    | QIC     | QIC     | PPC     | PPC   | PPC   |

## Gene table: QuantiNova LNA Probe PCR Focus Panel

| Position | Assay       | Name               | Symbol  | Ensembl ID      | Description                                                                                  |
|----------|-------------|--------------------|---------|-----------------|----------------------------------------------------------------------------------------------|
| A01      | UPFH1132862 | ENST00000537919.5  | ACLY    | ENSG00000131473 | ATP citrate lyase Source HGNC Symbol Acc HGNC 115                                            |
| A02      | UPFH1132213 | ENST00000348502.10 | ACSL4   | ENSG00000068366 | acyl-CoA synthetase long chain family member 4 Source HGNC Symbol Acc HGNC 3571              |
| A03      | UPFH1172899 | ENST00000528655.5  | ADM     | ENSG00000148926 | adrenomedullin Source HGNC Symbol Acc HGNC 259                                               |
| A04      | UPFH1132231 | ENST00000517746.6  | ANGPT1  | ENSG00000154188 | angiopoietin 1 Source HGNC Symbol Acc HGNC 484                                               |
| A05      | UPFH0272158 | ENST00000325203.9  | ANGPT2  | ENSG00000091879 | angiopoietin 2 Source HGNC Symbol Acc HGNC 485                                               |
| A06      | UPFH1132235 | ENST00000551964.5  | APAF1   | ENSG00000120868 | apoptotic peptidase activating factor 1 Source HGNC Symbol Acc HGNC 576                      |
| A07      | UPFH1132241 | ENST00000354396.6  | ARNT    | ENSG00000143437 | aryl hydrocarbon receptor nuclear translocator Source HGNC Symbol Acc HGNC 700               |
| A08      | UPFH1132254 | ENST00000590406.5  | ATP5F1A | ENSG00000152234 | ATP synthase F1 subunit alpha Source HGNC Symbol Acc HGNC 823                                |
| A09      | UPFH0528207 | ENST00000347343.6  | AURKA   | ENSG00000087586 | aurora kinase A Source HGNC Symbol Acc HGNC 11393                                            |
| A10      | UPFH1172900 | ENST00000308659.12 | BCL2L11 | ENSG00000153094 | BCL2 like 11 Source HGNC Symbol Acc HGNC 994                                                 |
| A11      | UPFH0113281 | ENST00000615299.4  | BIRC3   | ENSG00000023445 | baculoviral IAP repeat containing 3 Source HGNC Symbol Acc HGNC 591                          |
| A12      | UPFH0503163 | ENST00000602358.5  | BMI1    | ENSG00000168283 | BMI1 proto-oncogene, polycomb ring finger Source HGNC Symbol Acc HGNC 1066                   |
| B01      | UPFH1132903 | ENST00000617161.1  | CA9     | ENSG00000107159 | carbonic anhydrase 9 Source HGNC Symbol Acc HGNC 1383                                        |
| B02      | UPFH0459272 | ENST00000350623.7  | CASP2   | ENSG00000106144 | caspase 2 Source HGNC Symbol Acc HGNC 1503                                                   |
| B03      | UPFH0495219 | ENST00000369318.7  | CASP7   | ENSG00000165806 | caspase 7 Source HGNC Symbol Acc HGNC 1508                                                   |
| B04      | UPFH0083593 | ENST00000440484.1  | CASP9   | ENSG00000132906 | caspase 9 Source HGNC Symbol Acc HGNC 1511                                                   |
| B05      | UPFH1132783 | ENST00000225831.4  | CCL2    | ENSG00000108691 | C-C motif chemokine ligand 2 Source HGNC Symbol Acc HGNC 10618                               |
| B06      | UPFH1132296 | ENST00000261254.8  | CCND2   | ENSG00000118971 | cyclin D2 Source HGNC Symbol Acc HGNC 1583                                                   |
| B07      | UPFH0023687 | ENST00000372991.8  | CCND3   | ENSG00000112576 | cyclin D3 Source HGNC Symbol Acc HGNC 1585                                                   |
| B08      | UPFH1132303 | ENST00000372462.1  | CDC20   | ENSG00000117399 | cell division cycle 20 Source HGNC Symbol Acc HGNC 1723                                      |
| B09      | UPFH1132792 | ENST00000399380.7  | CDH2    | ENSG00000170558 | cadherin 2 Source HGNC Symbol Acc HGNC 1759                                                  |
| B10      | UPFH1132312 | ENST00000479953.6  | CFLAR   | ENSG00000003402 | CASP8 and FADD like apoptosis regulator Source HGNC Symbol Acc HGNC 1876                     |
| B11      | UPFH1132328 | ENST00000322347.11 | COX5A   | ENSG00000178741 | cytochrome c oxidase subunit 5A Source HGNC Symbol Acc HGNC 2267                             |
| B12      | UPFH1132334 | ENST00000636891.1  | CPT2    | ENSG00000157184 | carnitine palmitoyltransferase 2 Source HGNC Symbol Acc HGNC 2330                            |
| C01      | UPFH0224958 | ENST00000256996.8  | DDB2    | ENSG00000134574 | damage specific DNA binding protein 2 Source HGNC Symbol Acc HGNC 2718                       |
| C02      | UPFH0523891 | ENST00000346473.7  | DDIT3   | ENSG00000175197 | DNA damage inducible transcript 3 Source HGNC Symbol Acc HGNC 2726                           |
| C03      | UPFH0521239 | ENST00000481062.1  | DKC1    | ENSG00000130826 | dyskerin pseudouridine synthase 1 Source HGNC Symbol Acc HGNC 2890                           |
| C04      | UPFH1132371 | ENST00000379802.8  | DSP     | ENSG00000096696 | desmoplakin Source HGNC Symbol Acc HGNC 3052                                                 |
| C05      | UPFH1132376 | ENST00000379378.8  | E2F4    | ENSG00000205250 | E2F transcription factor 4 Source HGNC Symbol Acc HGNC 3118                                  |
| C06      | UPFH0083071 | ENST00000252723.3  | EPO     | ENSG00000130427 | erythropoietin Source HGNC Symbol Acc HGNC 3415                                              |
| C07      | UPFH0176537 | ENST00000285398.6  | ERCC3   | ENSG00000163161 | ERCC excision repair 3, TFIIH core complex helicase subunit Source HGNC Symbol Acc HGNC 3435 |
| C08      | UPFH1132905 | ENST00000652225.1  | ERCC5   | ENSG00000134899 | ERCC excision repair 5, endonuclease Source HGNC Symbol Acc HGNC 3437                        |
| C09      | UPFH1132389 | ENST00000360214.7  | ETS2    | ENSG00000157557 | ETS proto-oncogene 2, transcription factor Source HGNC Symbol Acc HGNC 3489                  |
| C10      | UPFH1132396 | ENST00000367721.3  | FASLG   | ENSG00000117560 | Fas ligand Source HGNC Symbol Acc HGNC 11936                                                 |
|          |             | ENST00000264       |         | ENSG000000      |                                                                                              |

| Position | Assay       | Name               | Symbol   | Ensembl ID       | Description                                                                       |
|----------|-------------|--------------------|----------|------------------|-----------------------------------------------------------------------------------|
| C11      | UPFH0613093 | 498.7              | FGF2     | 138685           | fibroblast growth factor 2 Source HGNC Symbol Acc HGNC 3676                       |
| C12      | UPFH1132400 | ENST00000541932.5  | FLT1     | ENSG00000102755  | fms related tyrosine kinase 1 Source HGNC Symbol Acc HGNC 3763                    |
| D01      | UPFH0518784 | ENST00000649859.1  | FOXC2    | ENSG00000176692  | forkhead box C2 Source HGNC Symbol Acc HGNC 3801                                  |
| D02      | UPFH0397211 | ENST00000621232.5  | G6PD     | ENSG00000160211  | glucose-6-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4057                |
| D03      | UPFH1132415 | ENST00000375769.1  | GADD45G  | ENSG00000130222  | growth arrest and DNA damage inducible gamma Source HGNC Symbol Acc HGNC 4097     |
| D04      | UPFH1132422 | ENST00000310454.10 | GPD2     | ENSG00000115159  | glycerol-3-phosphate dehydrogenase 2 Source HGNC Symbol Acc HGNC 4456             |
| D05      | UPFH1132427 | ENST00000238558.4  | GSC      | ENSG00000133937  | goosecoid homeobox Source HGNC Symbol Acc HGNC 4612                               |
| D06      | UPFH0433285 | ENST00000216117.9  | HMOX1    | ENSG00000100292  | heme oxygenase 1 Source HGNC Symbol Acc HGNC 5013                                 |
| D07      | UPFH1132893 | ENST00000275521.10 | IGFBP3   | ENSG00000146674  | insulin like growth factor binding protein 3 Source HGNC Symbol Acc HGNC 5472     |
| D08      | UPFH1132475 | ENST00000449583.1  | IGFBP5   | ENSG00000115461  | insulin like growth factor binding protein 5 Source HGNC Symbol Acc HGNC 5474     |
| D09      | UPFH0195059 | ENST00000295666.6  | IGFBP7   | ENSG00000163453  | insulin like growth factor binding protein 7 Source HGNC Symbol Acc HGNC 5476     |
| D10      | UPFH0596732 | ENST00000263923.5  | KDR      | ENSG00000128052  | kinase insert domain receptor Source HGNC Symbol Acc HGNC 6307                    |
| D11      | UPFH1132514 | ENST00000167586.7  | KRT14    | ENSG00000186847  | keratin 14 Source HGNC Symbol Acc HGNC 6416                                       |
| D12      | UPFH1132517 | ENST00000422447.8  | LDHA     | ENSG00000134333  | lactate dehydrogenase A Source HGNC Symbol Acc HGNC 6535                          |
| E01      | UPFH1132913 | ENST00000356922.5  | LIG4     | ENSG00000174405  | DNA ligase 4 Source HGNC Symbol Acc HGNC 6601                                     |
| E02      | UPFH1132523 | ENST00000311322.10 | LPL      | ENSG00000175445  | lipoprotein lipase Source HGNC Symbol Acc HGNC 6677                               |
| E03      | UPFH1132932 | ENST00000307102.9  | MAP2K1   | ENSG00000169032  | mitogen-activated protein kinase kinase 1 Source HGNC Symbol Acc HGNC 6840        |
| E04      | UPFH0309340 | ENST00000361818.9  | MAP2K3   | ENSG00000034152  | mitogen-activated protein kinase kinase 3 Source HGNC Symbol Acc HGNC 6843        |
| E05      | UPFH0068247 | ENST00000229795.7  | MAPK14   | ENSG00000112062  | mitogen-activated protein kinase 14 Source HGNC Symbol Acc HGNC 6876              |
| E06      | UPFH1132539 | ENST00000265056.12 | MCM2     | ENSG00000073111  | minichromosome maintenance complex component 2 Source HGNC Symbol Acc HGNC 6944   |
| E07      | UPFH1132549 | ENST00000368653.7  | MKI67    | ENSG00000148773  | marker of proliferation Ki-67 Source HGNC Symbol Acc HGNC 7107                    |
| E08      | UPFH0321828 | ENST00000564053.5  | NOL3     | ENSG00000140939  | nucleolar protein 3 Source NCBI gene Acc 8996                                     |
| E09      | UPFH1132600 | ENST00000355237.6  | OCLN     | ENSG000000197822 | occludin Source HGNC Symbol Acc HGNC 8104                                         |
| E10      | UPFH1132615 | ENST00000349048.9  | PFKL     | ENSG000000141959 | phosphofructokinase, liver type Source HGNC Symbol Acc HGNC 8876                  |
| E11      | UPFH1132616 | ENST0000055567.6   | PGF      | ENSG000000119630 | placental growth factor Source HGNC Symbol Acc HGNC 8893                          |
| E12      | UPFH1132625 | ENST00000314787.8  | PINX1    | ENSG000000254093 | PIN2 (TERF1) interacting telomerase inhibitor 1 Source HGNC Symbol Acc HGNC 30046 |
| F01      | UPFH1132832 | ENST00000521290.5  | POLB     | ENSG000000070501 | DNA polymerase beta Source HGNC Symbol Acc HGNC 9174                              |
| F02      | UPFH1132630 | ENST00000600406.1  | PPP1R15A | ENSG000000087074 | protein phosphatase 1 regulatory subunit 15A Source HGNC Symbol Acc HGNC 14375    |
| F03      | UPFH1132670 | ENST00000299502.9  | SERPINB2 | ENSG000000197632 | serpin family B member 2 Source HGNC Symbol Acc HGNC 8584                         |
| F04      | UPFH1172913 | ENST00000254722.9  | SERPINF1 | ENSG000000132386 | serpin family F member 1 Source HGNC Symbol Acc HGNC 8824                         |
| F05      | UPFH1132886 | ENST00000274255.10 | SKP2     | ENSG000000145604 | S-phase kinase associated protein 2 Source HGNC Symbol Acc HGNC 10901             |
| F06      | UPFH0225912 | ENST00000426263.8  | SLC2A1   | ENSG000000117394 | solute carrier family 2 member 1 Source HGNC Symbol Acc HGNC 11005                |
| F07      | UPFH1132841 | ENST00000244050.3  | SNAI1    | ENSG000000124216 | snail family transcriptional repressor 1 Source HGNC Symbol Acc HGNC 11128        |
| F08      | UPFH1132690 | ENST00000020945.4  | SNAI2    | ENSG000000019549 | snail family transcriptional repressor 2 Source HGNC Symbol Acc HGNC 11094        |
| F09      | UPFH1132691 | ENST00000332281.6  | SNAI3    | ENSG000000185669 | snail family transcriptional repressor 3 Source NCBI gene Acc 333929              |
| F10      | UPFH0220920 | ENST00000270142.10 | SOD1     | ENSG000000142168 | superoxide dismutase 1 Source HGNC Symbol Acc HGNC 11179                          |

| Position | Assay       | Name               | Symbol  | Ensembl ID      | Description                                                                                          |
|----------|-------------|--------------------|---------|-----------------|------------------------------------------------------------------------------------------------------|
| F11      | UPFH1132694 | ENST00000360880.6  | SOX10   | ENSG00000100146 | SRY-box 10 Source HGNC Symbol Acc HGNC 11190                                                         |
| F12      | UPFH1132700 | ENST00000426559.6  | STMN1   | ENSG00000117632 | stathmin 1 Source HGNC Symbol Acc HGNC 6510                                                          |
| G01      | UPFH1132707 | ENST00000240328.4  | TBX2    | ENSG00000121068 | T-box 2 Source HGNC Symbol Acc HGNC 11597                                                            |
| G02      | UPFH1132711 | ENST00000380036.9  | TEK     | ENSG00000120156 | TEK receptor tyrosine kinase Source HGNC Symbol Acc HGNC 11724                                       |
| G03      | UPFH0572246 | ENST00000553984.1  | TEP1    | ENSG00000129566 | telomerase associated protein 1 Source HGNC Symbol Acc HGNC 11726                                    |
| G04      | UPFH1132712 | ENST00000276603.10 | TERF1   | ENSG00000147601 | telomeric repeat binding factor 1 Source HGNC Symbol Acc HGNC 11728                                  |
| G05      | UPFH1132713 | ENST00000300086.5  | TERF2IP | ENSG00000166848 | TERF2 interacting protein Source HGNC Symbol Acc HGNC 19246                                          |
| G06      | UPFH0189537 | ENST00000399423.8  | TINF2   | ENSG00000092330 | TERF1 interacting nuclear factor 2 Source HGNC Symbol Acc HGNC 11824                                 |
| G07      | UPFH0321421 | ENST00000517989.1  | TNKS    | ENSG00000173273 | tankyrase Source HGNC Symbol Acc HGNC 11941                                                          |
| G08      | UPFH1132734 | ENST00000371627.5  | TNKS2   | ENSG00000107854 | tankyrase 2 Source HGNC Symbol Acc HGNC 15677                                                        |
| G09      | UPFH1132752 | ENST00000304863.6  | UQCRCF1 | ENSG00000169021 | ubiquinol-cytochrome c reductase, Rieske iron-sulfur polypeptide 1 Source HGNC Symbol Acc HGNC 12587 |
| G10      | UPFH1132755 | ENST00000618562.2  | VEGFC   | ENSG00000150630 | vascular endothelial growth factor C Source HGNC Symbol Acc HGNC 12682                               |
| G11      | UPFH1132757 | ENST00000450114.7  | WEE1    | ENSG00000166483 | WEE1 G2 checkpoint kinase Source HGNC Symbol Acc HGNC 12761                                          |
| G12      | UPFH0572864 | ENST00000371199.7  | XIAP    | ENSG00000101966 | X-linked inhibitor of apoptosis Source HGNC Symbol Acc HGNC 592                                      |
| H01      | UPFH1132936 | ENST00000646664.1  | ACTB    | ENSG00000075624 | actin beta Source HGNC Symbol Acc HGNC 132                                                           |
| H02      | UPFH1132937 | ENST00000544417.5  | B2M     | ENSG00000166710 | beta-2-microglobulin Source HGNC Symbol Acc HGNC 914                                                 |
| H03      | UPFH1132938 | ENST00000229239.10 | GAPDH   | ENSG00000111640 | glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141                            |
| H04      | UPFH1132939 | ENST00000298556.8  | HPRT1   | ENSG00000165704 | hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157                            |
| H05      | UPFH1132941 | ENST00000392514.9  | RPLP0   | ENSG00000089157 | ribosomal protein lateral stalk subunit P0 Source HGNC Symbol Acc HGNC 10371                         |
| H06      | UPFH1126608 | UPL_HGDC           | HGDC    | UPL_HGDC        | Human Genomic DNA Contamination                                                                      |
| H07      | UPFH1126606 | UPL_QIC            | QIC     | UPL_QIC         | QuantiNova Internal Control                                                                          |
| H08      | UPFH1126606 | UPL_QIC            | QIC     | UPL_QIC         | QuantiNova Internal Control                                                                          |
| H09      | UPFH1126606 | UPL_QIC            | QIC     | UPL_QIC         | QuantiNova Internal Control                                                                          |
| H10      | UPFH1126605 | UPL_PPC            | PPC     | UPL_PPC         | Positive PCR Control                                                                                 |
| H11      | UPFH1126605 | UPL_PPC            | PPC     | UPL_PPC         | Positive PCR Control                                                                                 |
| H12      | UPFH1126605 | UPL_PPC            | PPC     | UPL_PPC         | Positive PCR Control                                                                                 |



## Related products

| Product                                    | Contents                                                                                                                                                                                                                                               | Cat. no. |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| QuantiNova LNA Probe PCR QC Panel          | These panels are designed to assess the quality of RNA samples before characterization using QuantiNova LNA Probe PCR Focus Panels; available in 96-well, 384-well, and Rotor-Disc 100 formats                                                         | 249945   |
| 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 Probe RT-PCR Kit (100)*         | For 100 x 20 $\mu$ l reactions: 1 ml QuantiNova Probe RT-PCR Master Mix, 20 $\mu$ l QuantiNova Probe 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 | 208352   |
| QuantiNova Probe PCR Kit (100)*            | For 100 x 20 $\mu$ l reactions: 1 ml 2x QuantiNova Probe PCR Master Mix, 500 $\mu$ l QuantiNova Yellow Template Dilution Buffer, 250 $\mu$ l QN ROX Reference Dye, 1.9 ml Water                                                                        | 208252   |

\*Larger kit sizes available.

The QuantiNova LNA Probe 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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