

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

Human Hedgehog Signaling Pathway

Cat. no. 249955 UPHS-078ZA

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 (96-well): QuantiNova LNA Probe PCR Focus Panel

For the 384-well (4 × 96) PCR panels, genes are present in a staggered format. Refer to the QuantiNova LNA Probe PCR Handbook at www.qiagen.com for further details.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|--------|--------|-------|--------|--------|--------|--------|-------|-------|--------|---------|--------|
| A | BCL2 | BMP2 | BMP4 | BMP5 | BMP6 | BMP7 | BMP8B | BOC | BTRC | CDON | CSNK1A1 | CSNK1E |
| B | CTNNB1 | DHH | DISP1 | DISP2 | ERBB4 | FAT4 | FBXW11 | FGF9 | FGFR3 | FKBP8 | FOXE1 | FRMD6 |
| C | GAS1 | GLI1 | GLI2 | GLI3 | GREM1 | GSK3B | HHAT | HHIP | IFT52 | IHH | KCTD11 | LATS1 |
| D | LATS2 | LRP2 | MAPK1 | MOB1B | MTSS1 | NF2 | NPC1 | NUMB | OTX2 | PRKACA | PRKACB | PTCH1 |
| E | PTCH2 | PTCHD1 | DISP3 | PTCHD3 | RAB23 | RUNX2 | SFRP1 | SHH | SMO | STK3 | STK36 | SUFU |
| F | TP53 | VEGFA | WIF1 | WNT1 | WNT10A | WNT10B | WNT11 | WNT16 | WNT2 | WNT2B | WNT3 | WNT3A |
| G | WNT4 | WNT5A | WNT5B | WNT6 | WNT7A | WNT7B | WNT8A | WNT8B | WNT9A | WNT9B | ZIC1 | ZIC2 |
| 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 | UPFH1132900 | ENST00000333681.5 | BCL2 | ENSG00000171791 | BCL2, apoptosis regulator Source HGNC Symbol Acc HGNC 990 |
| A02 | UPFH1132780 | ENST000003378827.5 | BMP2 | ENSG00000125845 | bone morphogenetic protein 2 Source HGNC Symbol Acc HGNC 1069 |
| A03 | UPFH0443169 | ENST00000558984.1 | BMP4 | ENSG00000125378 | bone morphogenetic protein 4 Source HGNC Symbol Acc HGNC 1071 |
| A04 | UPFH1132864 | ENST000003370830.4 | BMP5 | ENSG00000112175 | bone morphogenetic protein 5 Source HGNC Symbol Acc HGNC 1072 |
| A05 | UPFH1172901 | ENST00000283147.7 | BMP6 | ENSG00000153162 | bone morphogenetic protein 6 Source HGNC Symbol Acc HGNC 1073 |
| A06 | UPFH1132781 | ENST00000433911.1 | BMP7 | ENSG00000101144 | bone morphogenetic protein 7 Source HGNC Symbol Acc HGNC 1074 |
| A07 | UPFH0580680 | ENST000003372827.8 | BMP8B | ENSG00000116985 | bone morphogenetic protein 8b Source HGNC Symbol Acc HGNC 1075 |
| A08 | UPFH1125435 | ENST00000471963.6 | BOC | ENSG00000144857 | BOC cell adhesion associated, oncogene regulated Source HGNC Symbol Acc HGNC 17173 |
| A09 | UPFH0358747 | ENST000003370187.8 | BTRC | ENSG00000166167 | beta-transducin repeat containing E3 ubiquitin protein ligase Source HGNC Symbol Acc HGNC 1144 |
| A10 | UPFH0324468 | ENST00000531738.5 | CDON | ENSG00000064309 | cell adhesion associated, oncogene regulated Source HGNC Symbol Acc HGNC 17104 |
| A11 | UPFH0546143 | ENST000003377843.6 | CSNK1A1 | ENSG00000113712 | casein kinase 1 alpha 1 Source HGNC Symbol Acc HGNC 2451 |
| A12 | UPFH0538939 | ENST000003396832.6 | CSNK1E | ENSG00000213923 | casein kinase 1 epsilon Source HGNC Symbol Acc HGNC 2453 |
| B01 | UPFH0097734 | ENST000003396183.7 | CTNNB1 | ENSG00000168036 | catenin beta 1 Source HGNC Symbol Acc HGNC 2514 |
| B02 | UPFH0095877 | ENST00000649637.2 | DHH | ENSG00000139549 | desert hedgehog signaling molecule Source HGNC Symbol Acc HGNC 2865 |
| B03 | UPFH0173027 | ENST000003360254.3 | DISP1 | ENSG00000154309 | dispatched RND transporter family member 1 Source HGNC Symbol Acc HGNC 19711 |
| B04 | UPFH0316584 | ENST00000558623.1 | DISP2 | ENSG00000140323 | dispatched RND transporter family member 2 Source HGNC Symbol Acc HGNC 19712 |
| B05 | UPFH0292006 | ENST00000436443.5 | ERBB4 | ENSG00000178568 | erb-b2 receptor tyrosine kinase 4 Source HGNC Symbol Acc HGNC 3432 |
| B06 | UPFH0156082 | ENST000003335110.5 | FAT4 | ENSG00000196159 | FAT atypical cadherin 4 Source HGNC Symbol Acc HGNC 23109 |
| B07 | UPFH0321621 | ENST000002265094.9 | FBXW11 | ENSG00000072803 | F-box and WD repeat domain containing 11 Source HGNC Symbol Acc HGNC 13607 |
| B08 | UPFH0365297 | ENST00000461657.1 | FGF9 | ENSG00000102678 | fibroblast growth factor 9 Source HGNC Symbol Acc HGNC 3687 |
| B09 | UPFH0584716 | ENST00000440486.7 | FGFR3 | ENSG00000068078 | fibroblast growth factor receptor 3 Source HGNC Symbol Acc HGNC 3690 |
| B10 | UPFH0397070 | ENST00000601844.5 | FKBP8 | ENSG00000105701 | FKBP prolyl isomerase 8 Source HGNC Symbol Acc HGNC 3724 |
| B11 | UPFH0054234 | ENST000003375123.4 | FOXE1 | ENSG00000178919 | forkhead box E1 Source HGNC Symbol Acc HGNC 3806 |
| B12 | UPFH0400370 | ENST00000553556.2 | FRMD6 | ENSG00000139926 | FERM domain containing 6 Source HGNC Symbol Acc HGNC 19839 |
| C01 | UPFH0019185 | ENST000002298743.9 | GAS1 | ENSG00000180447 | growth arrest specific 1 Source HGNC Symbol Acc HGNC 4165 |
| C02 | UPFH0266526 | ENST00000546141.5 | GLI1 | ENSG00000111087 | GLI family zinc finger 1 Source HGNC Symbol Acc HGNC 4317 |
| C03 | UPFH0462614 | ENST00000435313.6 | GLI2 | ENSG00000074047 | GLI family zinc finger 2 Source HGNC Symbol Acc HGNC 4318 |
| C04 | UPFH0025980 | ENST00000479210.1 | GLI3 | ENSG00000106571 | GLI family zinc finger 3 Source HGNC Symbol Acc HGNC 4319 |
| C05 | UPFH1172908 | ENST00000652365.1 | GREM1 | ENSG00000166923 | gremlin 1, DAN family BMP antagonist Source HGNC Symbol Acc HGNC 2001 |
| C06 | UPFH0470775 | ENST000003316626.5 | GSK3B | ENSG00000082701 | glycogen synthase kinase 3 beta Source HGNC Symbol Acc HGNC 4617 |
| C07 | UPFH0388103 | ENST00000545154.5 | HHAT | ENSG00000054392 | hedgehog acyltransferase Source HGNC Symbol Acc HGNC 18270 |
| C08 | UPFH0426966 | ENST00000515080.1 | HHIP | ENSG00000164161 | hedgehog interacting protein Source HGNC Symbol Acc HGNC 14866 |
| C09 | UPFH0180162 | ENST000003373039.4 | IFT52 | ENSG00000101052 | intraflagellar transport 52 Source HGNC Symbol Acc HGNC 15901 |
| C10 | UPFH0570027 | ENST00000295731.7 | IHH | ENSG00000163501 | Indian hedgehog signaling molecule Source HGNC Symbol Acc HGNC 5956 |
| | | ENST00000576 | | ENSG000000 | potassium channel tetramerization domain containing 11 Source HGNC Symbol |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|----------|-------------|--------------------|--------|-----------------|--|
| C11 | UPFH0185072 | 980.2 | KCTD11 | 213859 | Acc HGNC 21302 |
| C12 | UPFH0410954 | ENST00000542747.5 | LATS1 | ENSG00000131023 | large tumor suppressor kinase 1 Source HGNC Symbol Acc HGNC 6514 |
| D01 | UPFH0308328 | ENST00000382592.5 | LATS2 | ENSG00000150457 | large tumor suppressor kinase 2 Source HGNC Symbol Acc HGNC 6515 |
| D02 | UPFH0410908 | ENST00000443831.1 | LRP2 | ENSG00000081479 | LDL receptor related protein 2 Source HGNC Symbol Acc HGNC 6694 |
| D03 | UPFH0366815 | ENST00000215832.10 | MAPK1 | ENSG00000100030 | mitogen-activated protein kinase 1 Source HGNC Symbol Acc HGNC 6871 |
| D04 | UPFH0572966 | ENST00000309395.6 | MOB1B | ENSG00000173542 | MOB kinase activator 1B Source HGNC Symbol Acc HGNC 29801 |
| D05 | UPFH0112010 | ENST00000431961.6 | MTSS1 | ENSG00000170873 | MTSS1, I-BAR domain containing Source HGNC Symbol Acc HGNC 20443 |
| D06 | UPFH0114449 | ENST00000361166.8 | NF2 | ENSG00000186575 | neurofibromin 2 Source HGNC Symbol Acc HGNC 7773 |
| D07 | UPFH1132596 | ENST00000269228.10 | NPC1 | ENSG00000141458 | NPC intracellular cholesterol transporter 1 Source HGNC Symbol Acc HGNC 7897 |
| D08 | UPFH0067916 | ENST00000555238.5 | NUMB | ENSG00000133961 | NUMB, endocytic adaptor protein Source HGNC Symbol Acc HGNC 8060 |
| D09 | UPFH0514197 | ENST00000554845.1 | OTX2 | ENSG00000165588 | orthodenticle homeobox 2 Source HGNC Symbol Acc HGNC 8522 |
| D10 | UPFH0332354 | ENST00000593092.1 | PRKACA | ENSG00000072062 | protein kinase cAMP-activated catalytic subunit alpha Source HGNC Symbol Acc HGNC 9380 |
| D11 | UPFH0554579 | ENST00000470673.5 | PRKACB | ENSG00000142875 | protein kinase cAMP-activated catalytic subunit beta Source HGNC Symbol Acc HGNC 9381 |
| D12 | UPFH0155270 | ENST00000331920.10 | PTCH1 | ENSG00000185920 | patched 1 Source HGNC Symbol Acc HGNC 9585 |
| E01 | UPFH0600067 | ENST00000447098.6 | PTCH2 | ENSG00000117425 | patched 2 Source HGNC Symbol Acc HGNC 9586 |
| E02 | UPFH0211018 | ENST00000379361.5 | PTCHD1 | ENSG00000165186 | patched domain containing 1 Source HGNC Symbol Acc HGNC 26392 |
| E03 | UPFH0215576 | ENST00000294484.7 | DISP3 | ENSG00000204624 | dispatched RND transporter family member 3 Source HGNC Symbol Acc HGNC 29251 |
| E04 | UPFH0262521 | ENST00000438700.8 | PTCHD3 | ENSG00000182077 | patched domain containing 3 Source HGNC Symbol Acc HGNC 24776 |
| E05 | UPFH0466422 | ENST00000317483.4 | RAB23 | ENSG00000112210 | RAB23, member RAS oncogene family Source HGNC Symbol Acc HGNC 14263 |
| E06 | UPFH0537167 | ENST00000371436.10 | RUNX2 | ENSG00000124813 | runt related transcription factor 2 Source HGNC Symbol Acc HGNC 10472 |
| E07 | UPFH1132676 | ENST00000220772.8 | SFRP1 | ENSG00000104332 | secreted frizzled related protein 1 Source HGNC Symbol Acc HGNC 10776 |
| E08 | UPFH0252724 | ENST00000430104.5 | SHH | ENSG00000164690 | sonic hedgehog signaling molecule Source HGNC Symbol Acc HGNC 10848 |
| E09 | UPFH0104215 | ENST00000462420.2 | SMO | ENSG00000128602 | smoothed, frizzled class receptor Source HGNC Symbol Acc HGNC 11119 |
| E10 | UPFH0182082 | ENST00000419617.7 | STK3 | ENSG00000104375 | serine/threonine kinase 3 Source HGNC Symbol Acc HGNC 11406 |
| E11 | UPFH0608440 | ENST00000470568.1 | STK36 | ENSG00000163482 | serine/threonine kinase 36 Source HGNC Symbol Acc HGNC 17209 |
| E12 | UPFH0106393 | ENST00000471000.1 | SUFU | ENSG00000107882 | SUFU negative regulator of hedgehog signaling Source HGNC Symbol Acc HGNC 16466 |
| F01 | UPFH0565795 | ENST00000269305.8 | TP53 | ENSG00000141510 | tumor protein p53 Source HGNC Symbol Acc HGNC 11998 |
| F02 | UPFH0281656 | ENST00000425836.6 | VEGFA | ENSG00000112715 | vascular endothelial growth factor A Source HGNC Symbol Acc HGNC 12680 |
| F03 | UPFH1132759 | ENST00000286574.9 | WIF1 | ENSG00000156076 | WNT inhibitory factor 1 Source HGNC Symbol Acc HGNC 18081 |
| F04 | UPFH0344484 | ENST00000293549.3 | WNT1 | ENSG00000125084 | Wnt family member 1 Source HGNC Symbol Acc HGNC 12774 |
| F05 | UPFH1172916 | ENST00000258411.8 | WNT10A | ENSG00000135925 | Wnt family member 10A Source HGNC Symbol Acc HGNC 13829 |
| F06 | UPFH0490750 | ENST00000301061.9 | WNT10B | ENSG00000169884 | Wnt family member 10B Source HGNC Symbol Acc HGNC 12775 |
| F07 | UPFH1132929 | ENST00000322563.8 | WNT11 | ENSG00000085741 | Wnt family member 11 Source HGNC Symbol Acc HGNC 12776 |
| F08 | UPFH1132761 | ENST00000361301.6 | WNT16 | ENSG00000002745 | Wnt family member 16 Source HGNC Symbol Acc HGNC 16267 |
| F09 | UPFH0138379 | ENST00000265441.7 | WNT2 | ENSG00000105989 | Wnt family member 2 Source HGNC Symbol Acc HGNC 12780 |
| F10 | UPFH0204669 | ENST00000369686.9 | WNT2B | ENSG00000134245 | Wnt family member 2B Source HGNC Symbol Acc HGNC 12781 |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|----------|-------------|--------------------|--------|-----------------|--|
| F11 | UPFH1132762 | ENST00000225512.6 | WNT3 | ENSG00000108379 | Wnt family member 3 Source HGNC Symbol Acc HGNC 12782 |
| F12 | UPFH0486867 | ENST00000284523.2 | WNT3A | ENSG00000154342 | Wnt family member 3A Source HGNC Symbol Acc HGNC 15983 |
| G01 | UPFH1132763 | ENST00000290167.11 | WNT4 | ENSG00000162552 | Wnt family member 4 Source HGNC Symbol Acc HGNC 12783 |
| G02 | UPFH0355989 | ENST00000264634.8 | WNT5A | ENSG00000114251 | Wnt family member 5A Source HGNC Symbol Acc HGNC 12784 |
| G03 | UPFH1132764 | ENST00000537031.5 | WNT5B | ENSG00000111186 | Wnt family member 5B Source HGNC Symbol Acc HGNC 16265 |
| G04 | UPFH1132765 | ENST00000233948.4 | WNT6 | ENSG00000115596 | Wnt family member 6 Source HGNC Symbol Acc HGNC 12785 |
| G05 | UPFH0406663 | ENST00000285018.4 | WNT7A | ENSG00000154764 | Wnt family member 7A Source HGNC Symbol Acc HGNC 12786 |
| G06 | UPFH1132766 | ENST00000410058.1 | WNT7B | ENSG00000188064 | Wnt family member 7B Source HGNC Symbol Acc HGNC 12787 |
| G07 | UPFH0320758 | ENST00000398754.1 | WNT8A | ENSG00000061492 | Wnt family member 8A Source HGNC Symbol Acc HGNC 12788 |
| G08 | UPFH0440255 | ENST00000343737.5 | WNT8B | ENSG00000075290 | Wnt family member 8B Source HGNC Symbol Acc HGNC 12789 |
| G09 | UPFH0030443 | ENST00000272164.6 | WNT9A | ENSG00000143816 | Wnt family member 9A Source HGNC Symbol Acc HGNC 12778 |
| G10 | UPFH0059858 | ENST00000575372.5 | WNT9B | ENSG00000158955 | Wnt family member 9B Source HGNC Symbol Acc HGNC 12779 |
| G11 | UPFH0420811 | ENST00000474034.1 | ZIC1 | ENSG00000152977 | Zic family member 1 Source HGNC Symbol Acc HGNC 12872 |
| G12 | UPFH0512161 | ENST00000376335.8 | ZIC2 | ENSG00000043355 | Zic family member 2 Source HGNC Symbol Acc HGNC 12873 |
| 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 μ l reactions: 20 μ l 8x gDNA Removal Mix, 10 μ l Reverse Transcription Enzyme, 40 μ l Reverse Transcription Mix (containing RT primers), 20 μ l Internal Control RNA, 1.9 ml RNase-Free Water | 205410 |
| QuantiNova Probe RT-PCR Kit (100)* | For 100 x 20 μ l reactions: 1 ml QuantiNova Probe RT-PCR Master Mix, 20 μ l QuantiNova Probe RT Mix, 20 μ l Internal Control RNA, 500 μ l Yellow Template Dilution Buffer, 250 μ l ROX Reference Dye, 1.9 μ l RNase-Free Water | 208352 |
| QuantiNova Probe PCR Kit (100)* | For 100 x 20 μ l reactions: 1 ml 2x QuantiNova Probe PCR Master Mix, 500 μ l QuantiNova Yellow Template Dilution Buffer, 250 μ 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 or can be requested from QIAGEN Technical Services or your local distributor.

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