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

# Human Apoptosis

## Cat. no. 249955 UPHS-012ZR

## 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** for further details.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | ABL1 | AIFM1 | AKT1 | APAF1 | BAD | BAG1 | BAG3 | BAK1 | BAX | BCL10 | BCL2 | BCL2A1 |
| B | BCL2L1 | BCL2L10 | BCL2L11 | BCL2L2 | BFAR | BID | BIK | BIRC2 | BIRC3 | BIRC5 | BIRC6 | BNIP2 |
| C | BNIP3 | BNIP3L | BRAF | CASP1 | CASP10 | CASP14 | CASP2 | CASP3 | CASP4 | CASP5 | CASP6 | CASP7 |
| D | CASP8 | CASP9 | CD27 | CD40 | CD40LG | CD70 | CFLAR | CIDEA | CIDEB | CRADD | CYCS | DAPK1 |
| E | DFFA | DIABLO | FADD | FAS | FASLG | GADD45A | HRK | IGF1R | IL10 | LTA | LTBR | MCL1 |
| F | NAIP | NFKB1 | NOD1 | NOL3 | PYCARD | RIPK2 | TNF | TNFRSF10A | TNFRSF10B | TNFRSF11B | TNFRSF1A | TNFRSF1B |
| G | TNFRSF21 | TNFRSF25 | TNFRSF9 | TNFSF10 | TNFSF8 | TP53 | TP53BP2 | TP73 | TRADD | TRAF2 | TRAF3 | 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 | UPFH1132770 | ENST00000318560.6 | ABL1 | ENSG00000097007 | ABL proto-oncogene 1, non-receptor tyrosine kinase Source HGNC Symbol Acc HGNC 76 |
| A02 | UPFH1132774 | ENST00000287295.8 | AIFM1 | ENSG00000156709 | apoptosis inducing factor mitochondria associated 1 Source HGNC Symbol Acc HGNC 8768 |
| A03 | UPFH0453992 | ENST00000555528.5 | AKT1 | ENSG00000142208 | AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391 |
| A04 | UPFH1132235 | ENST00000551964.5 | APAF1 | ENSG00000120868 | apoptotic peptidase activating factor 1 Source HGNC Symbol Acc HGNC 576 |
| A05 | UPFH0437748 | ENST00000394532.7 | BAD | ENSG00000002330 | BCL2 associated agonist of cell death Source HGNC Symbol Acc HGNC 936 |
| A06 | UPFH1132265 | ENST00000641048.1 | BAG1 | ENSG00000107262 | BCL2 associated athanogene 1 Source HGNC Symbol Acc HGNC 937 |
| A07 | UPFH0352059 | ENST00000369085.7 | BAG3 | ENSG00000151929 | BCL2 associated athanogene 3 Source HGNC Symbol Acc HGNC 939 |
| A08 | UPFH1132266 | ENST00000360661.9 | BAK1 | ENSG00000030110 | BCL2 antagonist/killer 1 Source HGNC Symbol Acc HGNC 949 |
| A09 | UPFH0540159 | ENST00000293288.12 | BAX | ENSG00000087088 | BCL2 associated X, apoptosis regulator Source HGNC Symbol Acc HGNC 959 |
| A10 | UPFH1132269 | ENST00000620248.2 | BCL10 | ENSG00000142867 | BCL10, immune signaling adaptor Source HGNC Symbol Acc HGNC 989 |
| A11 | UPFH1132900 | ENST00000333681.5 | BCL2 | ENSG00000171791 | BCL2, apoptosis regulator Source HGNC Symbol Acc HGNC 990 |
| A12 | UPFH1132270 | ENST00000335661.6 | BCL2A1 | ENSG00000140379 | BCL2 related protein A1 Source HGNC Symbol Acc HGNC 991 |
| B01 | UPFH1132271 | ENST00000376062.6 | BCL2L1 | ENSG00000171552 | BCL2 like 1 Source HGNC Symbol Acc HGNC 992 |
| B02 | UPFH1172917 | ENST00000561198.1 | BCL2L10 | ENSG00000137875 | BCL2 like 10 Source HGNC Symbol Acc HGNC 993 |
| B03 | UPFH1172900 | ENST00000308659.12 | BCL2L11 | ENSG00000153094 | BCL2 like 11 Source HGNC Symbol Acc HGNC 994 |
| B04 | UPFH0297334 | ENST00000250405.9 | BCL2L2 | ENSG00000129473 | BCL2 like 2 Source HGNC Symbol Acc HGNC 995 |
| B05 | UPFH0614375 | ENST00000566710.1 | BFAR | ENSG00000103429 | bifunctional apoptosis regulator Source HGNC Symbol Acc HGNC 17613 |
| B06 | UPFH0184066 | ENST00000622694.4 | BID | ENSG00000015475 | BH3 interacting domain death agonist Source HGNC Symbol Acc HGNC 1050 |
| B07 | UPFH1132960 | ENST00000216115.3 | BIK | ENSG00000100290 | BCL2 interacting killer Source HGNC Symbol Acc HGNC 1051 |
| B08 | UPFH0351057 | ENST00000227758.6 | BIRC2 | ENSG00000110330 | baculoviral IAP repeat containing 2 Source HGNC Symbol Acc HGNC 590 |
| B09 | UPFH0113281 | ENST00000615299.4 | BIRC3 | ENSG00000023445 | baculoviral IAP repeat containing 3 Source HGNC Symbol Acc HGNC 591 |
| B10 | UPFH1132779 | ENST00000301633.8 | BIRC5 | ENSG00000089685 | baculoviral IAP repeat containing 5 Source HGNC Symbol Acc HGNC 593 |
| B11 | UPFH1124747 | ENST00000421745.6 | BIRC6 | ENSG00000115760 | baculoviral IAP repeat containing 6 Source HGNC Symbol Acc HGNC 13516 |
| B12 | UPFH0212268 | ENST00000267859.7 | BNIP2 | ENSG00000140299 | BCL2 interacting protein 2 Source HGNC Symbol Acc HGNC 1083 |
| C01 | UPFH0140616 | ENST00000633835.1 | BNIP3 | ENSG00000176171 | BCL2 interacting protein 3 Source HGNC Symbol Acc HGNC 1084 |
| C02 | UPFH1132277 | ENST00000520409.5 | BNIP3L | ENSG00000104765 | BCL2 interacting protein 3 like Source HGNC Symbol Acc HGNC 1085 |
| C03 | UPFH0559252 | ENST00000646891.1 | BRAF | ENSG00000157764 | B-Raf proto-oncogene, serine/threonine kinase Source HGNC Symbol Acc HGNC 1097 |
| C04 | UPFH0285144 | ENST00000436863.7 | CASP1 | ENSG00000137752 | caspase 1 Source HGNC Symbol Acc HGNC 1499 |
| C05 | UPFH1132283 | ENST00000360132.7 | CASP10 | ENSG00000003400 | caspase 10 Source HGNC Symbol Acc HGNC 1500 |
| C06 | UPFH1132979 | ENST00000427043.4 | CASP14 | ENSG00000105141 | caspase 14 Source HGNC Symbol Acc HGNC 1502 |
| C07 | UPFH0459272 | ENST00000350623.7 | CASP2 | ENSG00000106144 | caspase 2 Source HGNC Symbol Acc HGNC 1503 |
| C08 | UPFH1132892 | ENST00000523916.5 | CASP3 | ENSG00000164305 | caspase 3 Source HGNC Symbol Acc HGNC 1504 |
| C09 | UPFH1132284 | ENST00000444739.7 | CASP4 | ENSG00000196954 | caspase 4 Source HGNC Symbol Acc HGNC 1505 |
| C10 | UPFH1132865 | ENST00000444749.6 | CASP5 | ENSG00000137757 | caspase 5 Source HGNC Symbol Acc HGNC 1506 |
| | | ENST00000352 | | ENSG00000 | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| C11 | UPFH0298502 | 981.7 | CASP6 | 138794 | caspase 6 Source HGNC Symbol Acc HGNC 1507 |
| C12 | UPFH0495219 | ENST00000369318.7 | CASP7 | ENSG00000165806 | caspase 7 Source HGNC Symbol Acc HGNC 1508 |
| D01 | UPFH0522971 | ENST00000264275.9 | CASP8 | ENSG00000064012 | caspase 8 Source HGNC Symbol Acc HGNC 1509 |
| D02 | UPFH0083593 | ENST00000440484.1 | CASP9 | ENSG00000132906 | caspase 9 Source HGNC Symbol Acc HGNC 1511 |
| D03 | UPFH0539172 | ENST00000266557.3 | CD27 | ENSG00000139193 | CD27 molecule Source HGNC Symbol Acc HGNC 11922 |
| D04 | UPFH0317626 | ENST00000372285.7 | CD40 | ENSG00000101017 | CD40 molecule Source HGNC Symbol Acc HGNC 11919 |
| D05 | UPFH0592498 | ENST00000370629.6 | CD40LG | ENSG00000102245 | CD40 ligand Source HGNC Symbol Acc HGNC 11935 |
| D06 | UPFH1132789 | ENST00000245903.4 | CD70 | ENSG00000125726 | CD70 molecule Source NCBI gene Acc 970 |
| D07 | UPFH1132312 | ENST00000479953.6 | CFLAR | ENSG00000003402 | CASP8 and FADD like apoptosis regulator Source HGNC Symbol Acc HGNC 1876 |
| D08 | UPFH0311068 | ENST00000320477.9 | CIDEA | ENSG00000176194 | cell death inducing DFFA like effector a Source HGNC Symbol Acc HGNC 1976 |
| D09 | UPFH1132983 | ENST00000554411.5 | CIDEB | ENSG00000136305 | cell death inducing DFFA like effector b Source HGNC Symbol Acc HGNC 1977 |
| D10 | UPFH1132335 | ENST00000332896.8 | CRADD | ENSG00000169372 | CASP2 and RIPK1 domain containing adaptor with death domain Source HGNC Symbol Acc HGNC 2340 |
| D11 | UPFH0601305 | ENST00000409409.5 | CYCS | ENSG00000172115 | cytochrome c, somatic Source HGNC Symbol Acc HGNC 19986 |
| D12 | UPFH1132354 | ENST00000408954.8 | DAPK1 | ENSG00000196730 | death associated protein kinase 1 Source HGNC Symbol Acc HGNC 2674 |
| E01 | UPFH1132358 | ENST00000377036.2 | DFFA | ENSG00000160049 | DNA fragmentation factor subunit alpha Source HGNC Symbol Acc HGNC 2772 |
| E02 | UPFH1132360 | ENST00000446652.5 | DIABLO | ENSG00000184047 | diablo IAP-binding mitochondrial protein Source HGNC Symbol Acc HGNC 21528 |
| E03 | UPFH1132906 | ENST00000301838.4 | FADD | ENSG00000168040 | Fas associated via death domain Source HGNC Symbol Acc HGNC 3573 |
| E04 | UPFH1132395 | ENST00000357339.6 | FAS | ENSG00000026103 | Fas cell surface death receptor Source HGNC Symbol Acc HGNC 11920 |
| E05 | UPFH1132396 | ENST00000367721.3 | FASLG | ENSG00000117560 | Fas ligand Source HGNC Symbol Acc HGNC 11936 |
| E06 | UPFH1132413 | ENST00000370985.4 | GADD45A | ENSG00000116717 | growth arrest and DNA damage inducible alpha Source HGNC Symbol Acc HGNC 4095 |
| E07 | UPFH1172909 | ENST00000257572.5 | HRK | ENSG00000135116 | harakiri, BCL2 interacting protein Source HGNC Symbol Acc HGNC 5185 |
| E08 | UPFH0237955 | ENST00000650285.1 | IGF1R | ENSG00000140443 | insulin like growth factor 1 receptor Source HGNC Symbol Acc HGNC 5465 |
| E09 | UPFH0028177 | ENST00000423557.1 | IL10 | ENSG00000136634 | interleukin 10 Source HGNC Symbol Acc HGNC 5962 |
| E10 | UPFH1132824 | ENST00000454783.5 | LTA | ENSG00000226979 | lymphotoxin alpha Source HGNC Symbol Acc HGNC 6709 |
| E11 | UPFH1132825 | ENST00000228918.9 | LTBR | ENSG00000111321 | lymphotoxin beta receptor Source HGNC Symbol Acc HGNC 6718 |
| E12 | UPFH1132538 | ENST00000369026.3 | MCL1 | ENSG00000143384 | MCL1, BCL2 family apoptosis regulator Source HGNC Symbol Acc HGNC 6943 |
| F01 | UPFH1132565 | ENST00000503719.6 | NAIP | ENSG00000249437 | NLR family apoptosis inhibitory protein Source HGNC Symbol Acc HGNC 7634 |
| F02 | UPFH1132828 | ENST00000226574.9 | NFKB1 | ENSG00000109320 | nuclear factor kappa B subunit 1 Source HGNC Symbol Acc HGNC 7794 |
| F03 | UPFH1132916 | ENST00000222823.9 | NOD1 | ENSG00000106100 | nucleotide binding oligomerization domain containing 1 Source HGNC Symbol Acc HGNC 16390 |
| F04 | UPFH0321828 | ENST00000564053.5 | NOL3 | ENSG00000140939 | nucleolar protein 3 Source NCBI gene Acc 8996 |
| F05 | UPFH1133183 | ENST00000247470.10 | PYCARD | ENSG00000103490 | PYD and CARD domain containing Source HGNC Symbol Acc HGNC 16608 |
| F06 | UPFH1132658 | ENST00000220751.5 | RIPK2 | ENSG00000104312 | receptor interacting serine/threonine kinase 2 Source HGNC Symbol Acc HGNC 10020 |
| F07 | UPFH1132978 | ENST00000449264.3 | TNF | ENSG00000232810 | tumor necrosis factor Source HGNC Symbol Acc HGNC 11892 |
| F08 | UPFH1132888 | ENST00000524158.5 | TNFRSF10A | ENSG00000104689 | TNF receptor superfamily member 10a Source HGNC Symbol Acc HGNC 11904 |
| F09 | UPFH1132850 | ENST00000347739.3 | TNFRSF10B | ENSG00000120889 | TNF receptor superfamily member 10b Source HGNC Symbol Acc HGNC 11905 |
| F10 | UPFH1132851 | ENST00000297350.9 | TNFRSF11B | ENSG00000164761 | TNF receptor superfamily member 11b Source HGNC Symbol Acc HGNC 11909 |
| | | | | | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| F11 | UPFH1132732 | ENST00000162749.6 | TNFRSF1A | ENSG00000067182 | TNF receptor superfamily member 1A Source HGNC Symbol Acc HGNC 11916 |
| F12 | UPFH1132926 | ENST00000536782.2 | TNFRSF1B | ENSG00000028137 | TNF receptor superfamily member 1B Source HGNC Symbol Acc HGNC 11917 |
| G01 | UPFH0235952 | ENST00000296861.2 | TNFRSF21 | ENSG00000146072 | TNF receptor superfamily member 21 Source HGNC Symbol Acc HGNC 13469 |
| G02 | UPFH0465524 | ENST00000356876.7 | TNFRSF25 | ENSG00000215788 | TNF receptor superfamily member 25 Source HGNC Symbol Acc HGNC 11910 |
| G03 | UPFH0607162 | ENST00000615230.4 | TNFRSF9 | ENSG00000049249 | TNF receptor superfamily member 9 Source HGNC Symbol Acc HGNC 11924 |
| G04 | UPFH1132733 | ENST00000241261.7 | TNFSF10 | ENSG00000121858 | TNF superfamily member 10 Source HGNC Symbol Acc HGNC 11925 |
| G05 | UPFH0562560 | ENST00000223795.2 | TNFSF8 | ENSG00000106952 | TNF superfamily member 8 Source HGNC Symbol Acc HGNC 11938 |
| G06 | UPFH0565795 | ENST00000269305.8 | TP53 | ENSG00000141510 | tumor protein p53 Source HGNC Symbol Acc HGNC 11998 |
| G07 | UPFH0097395 | ENST00000391878.6 | TP53BP2 | ENSG00000143514 | tumor protein p53 binding protein 2 Source HGNC Symbol Acc HGNC 12000 |
| G08 | UPFH1132927 | ENST00000354437.8 | TP73 | ENSG00000078900 | tumor protein p73 Source HGNC Symbol Acc HGNC 12003 |
| G09 | UPFH1132738 | ENST00000345057.9 | TRADD | ENSG00000102871 | TNFRSF1A associated via death domain Source HGNC Symbol Acc HGNC 12030 |
| G10 | UPFH1132855 | ENST00000247668.7 | TRAF2 | ENSG00000127191 | TNF receptor associated factor 2 Source HGNC Symbol Acc HGNC 12032 |
| G11 | UPFH0301511 | ENST00000560371.5 | TRAF3 | ENSG00000131323 | TNF receptor associated factor 3 Source HGNC Symbol Acc HGNC 12033 |
| 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 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 Probe RT-PCR Kit (100)* | For 100 x 20 µl reactions: 1 ml QuantiNova Probe RT-PCR Master Mix, 20 µl QuantiNova Probe RT Mix, 20 µl Internal Control RNA, 500 µl Yellow Template Dilution Buffer, 250 µl ROX Reference Dye, 1.9 µl RNase-Free Water | 208352 |
| QuantiNova Probe PCR Kit (100)* | For 100 x 20 µl reactions: 1 ml 2x QuantiNova Probe PCR Master Mix, 500 µl QuantiNova Yellow Template Dilution Buffer, 250 µl 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.