

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

## Human Necrosis

Cat. no. 249950 SBHS-141ZR

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 | AIFM1    | ATP6V1G2 | BAX      | BID      | BIRC3    | BMF     | BNIP3L  | C1orf159 | CAPN1   | CAPN2  | CAPN3   | CAPN5     |
| B | CAPN6    | CAPN7    | CAPN51   | CASP8AP2 | CCDC103  | CD40    | COMMD4  | CYBB     | CYLD    | DEFB1  | DENND4A | DPYSL4    |
| C | EDA2R    | EIF5B    | FADD     | FAF1     | FAS      | FASLG   | FEM1B   | FOXI1    | FUS     | GALNT5 | GLUD1   | GLUL      |
| D | GRB2     | HSPBAP1  | IKBK     | JPH3     | KCNIP1   | MADD    | MAG     | OGA      | MYD88   | NFKB1  | NGF     | NGFR      |
| E | BEX3     | NOX1     | NOX4     | OR10J3   | PARP1    | PARP2   | PIDD1   | PPIA     | PPID    | PVR    | PYGL    | RAB25     |
| F | RIPK1    | RIPK2    | RIPK3    | S100A7A  | SLC25A4  | SP1     | SPATA2  | SYCP2    | TMEM123 | MACO1  | TNF     | TNFRSF10A |
| G | TNFRSF14 | TNFRSF17 | TNFRSF1A | TNFRSF1B | TNFRSF25 | TNFRSF4 | TNFRSF8 | TNFSF10  | TNFSF15 | TRADD  | TRAF2   | TXN14B    |
| 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      | SBH1219730 | ENST00000319908.7  | AIFM1    | ENSG00000156709 | apoptosis inducing factor mitochondria associated 1 Source HGNC Symbol Acc HGNC 8768 |
| A02      | SBH0108984 | ENST00000483251.1  | ATP6V1G2 | ENSG00000213760 | ATPase H+ transporting V1 subunit G2 Source HGNC Symbol Acc HGNC 862                 |
| A03      | SBH1219783 | ENST00000391871.4  | BAX      | ENSG00000087088 | BCL2 associated X, apoptosis regulator Source HGNC Symbol Acc HGNC 959               |
| A04      | SBH0641141 | ENST00000622694.4  | BID      | ENSG00000015475 | BH3 interacting domain death agonist Source HGNC Symbol Acc HGNC 1050                |
| A05      | SBH1219796 | ENST00000263464.8  | BIRC3    | ENSG00000023445 | baculoviral IAP repeat containing 3 Source HGNC Symbol Acc HGNC 591                  |
| A06      | SBH0106821 | ENST00000559701.5  | BMF      | ENSG00000104081 | Bcl2 modifying factor Source HGNC Symbol Acc HGNC 24132                              |
| A07      | SBH1219811 | ENST00000523515.5  | BNIP3L   | ENSG00000104765 | BCL2 interacting protein 3 like Source HGNC Symbol Acc HGNC 1085                     |
| A08      | SBH0450125 | ENST00000379319.5  | C1orf159 | ENSG00000131591 | chromosome 1 open reading frame 159 Source HGNC Symbol Acc HGNC 26062                |
| A09      | SBH0247299 | ENST00000526954.5  | CAPN1    | ENSG00000014216 | calpain 1 Source HGNC Symbol Acc HGNC 1476                                           |
| A10      | SBH0201957 | ENST00000472601.5  | CAPN2    | ENSG00000162909 | calpain 2 Source HGNC Symbol Acc HGNC 1479                                           |
| A11      | SBH0462377 | ENST00000397200.8  | CAPN3    | ENSG00000092529 | calpain 3 Source HGNC Symbol Acc HGNC 1480                                           |
| A12      | SBH0584653 | ENST00000527129.1  | CAPN5    | ENSG00000149260 | calpain 5 Source HGNC Symbol Acc HGNC 1482                                           |
| B01      | SBH0377694 | ENST00000324068.2  | CAPN6    | ENSG00000077274 | calpain 6 Source HGNC Symbol Acc HGNC 1483                                           |
| B02      | SBH0046877 | ENST00000443567.5  | CAPN7    | ENSG00000131375 | calpain 7 Source HGNC Symbol Acc HGNC 1484                                           |
| B03      | SBH0024803 | ENST0000058815.5   | CAPNS1   | ENSG00000126247 | calpain small subunit 1 Source HGNC Symbol Acc HGNC 1481                             |
| B04      | SBH0259379 | ENST00000547893.5  | CASP8AP2 | ENSG00000118412 | caspase 8 associated protein 2 Source HGNC Symbol Acc HGNC 1510                      |
| B05      | SBH0096346 | ENST00000410006.6  | CCDC103  | ENSG00000167131 | coiled-coil domain containing 103 Source HGNC Symbol Acc HGNC 32700                  |
| B06      | SBH1219861 | ENST00000372285.7  | CD40     | ENSG00000101017 | CD40 molecule Source HGNC Symbol Acc HGNC 11919                                      |
| B07      | SBH0095247 | ENST00000568877.5  | COMMD4   | ENSG00000140365 | COMM domain containing 4 Source HGNC Symbol Acc HGNC 26027                           |
| B08      | SBH1219935 | ENST00000378588.4  | CYBB     | ENSG00000165168 | cytochrome b-245 beta chain Source HGNC Symbol Acc HGNC 2578                         |
| B09      | SBH0059638 | ENST00000311559.13 | CYLD     | ENSG00000083799 | CYLD lysine 63 deubiquitinase Source HGNC Symbol Acc HGNC 2584                       |
| B10      | SBH0539865 | ENST00000297439.4  | DEFB1    | ENSG00000164825 | defensin beta 1 Source HGNC Symbol Acc HGNC 2766                                     |
| B11      | SBH0589780 | ENST00000431932.6  | DENND4A  | ENSG00000174485 | DENN domain containing 4A Source HGNC Symbol Acc HGNC 24321                          |
| B12      | SBH0377213 | ENST00000338492.9  | DPYSL4   | ENSG00000151640 | dihydropyrimidinase like 4 Source HGNC Symbol Acc HGNC 3016                          |
| C01      | SBH0609041 | ENST00000451436.6  | EDA2R    | ENSG00000131080 | ectodysplasin A2 receptor Source HGNC Symbol Acc HGNC 17756                          |
| C02      | SBH0282447 | ENST00000289371.11 | EIF5B    | ENSG00000158417 | eukaryotic translation initiation factor 5B Source HGNC Symbol Acc HGNC 30793        |
| C03      | SBH0294674 | ENST00000301838.4  | FADD     | ENSG00000168040 | Fas associated via death domain Source HGNC Symbol Acc HGNC 3573                     |
| C04      | SBH0630543 | ENST00000494400.5  | FAF1     | ENSG00000185104 | Fas associated factor 1 Source HGNC Symbol Acc HGNC 3578                             |
| C05      | SBH1219994 | ENST00000652046.1  | FAS      | ENSG00000026103 | Fas cell surface death receptor Source HGNC Symbol Acc HGNC 11920                    |
| C06      | SBH1219995 | ENST00000367721.3  | FASLG    | ENSG00000117560 | Fas ligand Source HGNC Symbol Acc HGNC 11936                                         |
| C07      | SBH0637655 | ENST00000306917.5  | FEM1B    | ENSG00000169018 | fem-1 homolog B Source HGNC Symbol Acc HGNC 3649                                     |
| C08      | SBH0321983 | ENST00000306268.8  | FOXI1    | ENSG00000168269 | forkhead box I1 Source HGNC Symbol Acc HGNC 3815                                     |
| C09      | SBH0067264 | ENST00000566605.5  | FUS      | ENSG00000089280 | FUS RNA binding protein Source HGNC Symbol Acc HGNC 4010                             |
| C10      | SBH0254571 | ENST00000259056.5  | GALNT5   | ENSG00000136542 | polypeptide N-acetylgalactosaminyltransferase 5 Source HGNC Symbol Acc HGNC 4127     |
|          |            | ENST000000277      |          | ENSG000000      |                                                                                      |

| Position | Assay      | Name               | Symbol  | Ensembl ID      | Description                                                                               |
|----------|------------|--------------------|---------|-----------------|-------------------------------------------------------------------------------------------|
| C11      | SBH0257829 | 865.5              | GLUD1   | 148672          | glutamate dehydrogenase 1 Source HGNC Symbol Acc HGNC 4335                                |
| C12      | SBH0236904 | ENST00000417584.6  | GLUL    | ENSG00000135821 | glutamate-ammonia ligase Source HGNC Symbol Acc HGNC 4341                                 |
| D01      | SBH1220038 | ENST00000392563.5  | GRB2    | ENSG00000177885 | growth factor receptor bound protein 2 Source HGNC Symbol Acc HGNC 4566                   |
| D02      | SBH0622184 | ENST00000467643.5  | HSPBAP1 | ENSG00000169087 | HSPB1 associated protein 1 Source HGNC Symbol Acc HGNC 16389                              |
| D03      | SBH0411490 | ENST00000422680.5  | IKBK    | ENSG00000269335 | inhibitor of nuclear factor kappa B kinase subunit gamma Source HGNC Symbol Acc HGNC 5961 |
| D04      | SBH0489202 | ENST00000563609.1  | JPH3    | ENSG00000154118 | junctophilin 3 Source HGNC Symbol Acc HGNC 14203                                          |
| D05      | SBH0361360 | ENST00000390656.8  | KCNIP1  | ENSG00000182132 | potassium voltage-gated channel interacting protein 1 Source HGNC Symbol Acc HGNC 15521   |
| D06      | SBH0164256 | ENST00000349238.7  | MADD    | ENSG00000110514 | MAP kinase activating death domain Source HGNC Symbol Acc HGNC 6766                       |
| D07      | SBH0470148 | ENST00000392213.8  | MAG     | ENSG00000105695 | myelin associated glycoprotein Source HGNC Symbol Acc HGNC 6783                           |
| D08      | SBH0175300 | ENST00000361464.8  | OGA     | ENSG00000198408 | O-GlcNAcase Source HGNC Symbol Acc HGNC 7056                                              |
| D09      | SBH0303234 | ENST00000648963.1  | MYD88   | ENSG00000172936 | MYD88, innate immune signal transduction adaptor Source HGNC Symbol Acc HGNC 7562         |
| D10      | SBH1220264 | ENST00000651197.1  | NFKB1   | ENSG00000109320 | nuclear factor kappa B subunit 1 Source HGNC Symbol Acc HGNC 7794                         |
| D11      | SBH0318562 | ENST00000369512.2  | NGF     | ENSG00000134259 | nerve growth factor Source HGNC Symbol Acc HGNC 7808                                      |
| D12      | SBH0556664 | ENST00000504201.1  | NGFR    | ENSG00000064300 | nerve growth factor receptor Source HGNC Symbol Acc HGNC 7809                             |
| E01      | SBH0454278 | ENST00000372635.1  | BEX3    | ENSG00000166681 | brain expressed X-linked 3 Source HGNC Symbol Acc HGNC 13388                              |
| E02      | SBH0124554 | ENST00000372964.5  | NOX1    | ENSG00000007952 | NADPH oxidase 1 Source HGNC Symbol Acc HGNC 7889                                          |
| E03      | SBH1220274 | ENST00000525196.5  | NOX4    | ENSG00000086991 | NADPH oxidase 4 Source HGNC Symbol Acc HGNC 7891                                          |
| E04      | SBH0136093 | ENST00000649616.1  | OR10J3  | ENSG00000196266 | olfactory receptor family 10 subfamily J member 3 Source HGNC Symbol Acc HGNC 14992       |
| E05      | SBH1220289 | ENST00000366794.10 | PARP1   | ENSG00000143799 | poly(ADP-ribose) polymerase 1 Source HGNC Symbol Acc HGNC 270                             |
| E06      | SBH0568522 | ENST00000250416.9  | PARP2   | ENSG00000129484 | poly(ADP-ribose) polymerase 2 Source HGNC Symbol Acc HGNC 272                             |
| E07      | SBH0534398 | ENST00000411829.6  | PIDD1   | ENSG00000177595 | p53-induced death domain protein 1 Source HGNC Symbol Acc HGNC 16491                      |
| E08      | SBH1220552 | ENST00000468812.6  | PPIA    | ENSG00000196262 | peptidylprolyl isomerase A Source HGNC Symbol Acc HGNC 9253                               |
| E09      | SBH0406177 | ENST00000307720.4  | PPID    | ENSG00000171497 | peptidylprolyl isomerase D Source HGNC Symbol Acc HGNC 9257                               |
| E10      | SBH1220346 | ENST00000403059.8  | PVR     | ENSG00000073008 | poliovirus receptor Source HGNC Symbol Acc HGNC 9705                                      |
| E11      | SBH1220349 | ENST00000544180.6  | PYGL    | ENSG00000100504 | glycogen phosphorylase L Source HGNC Symbol Acc HGNC 9725                                 |
| E12      | SBH0546015 | ENST00000497968.1  | RAB25   | ENSG00000132698 | RAB25, member RAS oncogene family Source HGNC Symbol Acc HGNC 18238                       |
| F01      | SBH1220369 | ENST00000259808.9  | RIPK1   | ENSG00000137275 | receptor interacting serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 10019          |
| F02      | SBH1220370 | ENST00000220751.5  | RIPK2   | ENSG00000104312 | receptor interacting serine/threonine kinase 2 Source HGNC Symbol Acc HGNC 10020          |
| F03      | SBH0510319 | ENST00000557624.1  | RIPK3   | ENSG00000129465 | receptor interacting serine/threonine kinase 3 Source HGNC Symbol Acc HGNC 10021          |
| F04      | SBH0368657 | ENST00000329256.2  | S100A7A | ENSG00000184330 | S100 calcium binding protein A7A Source HGNC Symbol Acc HGNC 21657                        |
| F05      | SBH0594083 | ENST00000491736.1  | SLC25A4 | ENSG00000151729 | solute carrier family 25 member 4 Source HGNC Symbol Acc HGNC 10990                       |
| F06      | SBH1220419 | ENST00000426431.2  | SP1     | ENSG00000185591 | Sp1 transcription factor Source HGNC Symbol Acc HGNC 11205                                |
| F07      | SBH0388314 | ENST00000289431.10 | SPATA2  | ENSG00000158480 | spermatogenesis associated 2 Source HGNC Symbol Acc HGNC 14681                            |
| F08      | SBH0212598 | ENST00000471331.1  | SYCP2   | ENSG00000196074 | synaptonemal complex protein 2 Source HGNC Symbol Acc HGNC 11490                          |
| F09      | SBH0453631 | ENST00000528969.5  | TMEM123 | ENSG00000152558 | transmembrane protein 123 Source HGNC Symbol Acc HGNC 30138                               |
| F10      | SBH0244766 | ENST00000647928.1  | MACO1   | ENSG00000204178 | macoilin 1 Source HGNC Symbol Acc HGNC 25572                                              |

| Position | Assay      | Name              | Symbol    | Ensembl ID       | Description                                                                  |
|----------|------------|-------------------|-----------|------------------|------------------------------------------------------------------------------|
| F11      | SBH1220471 | ENST00000449264.3 | TNF       | ENSG00000232810  | tumor necrosis factor Source HGNC Symbol Acc HGNC 11892                      |
| F12      | SBH1220472 | ENST00000221132.7 | TNFRSF10A | ENSG00000104689  | TNF receptor superfamily member 10a Source HGNC Symbol Acc HGNC 11904        |
| G01      | SBH0472908 | ENST00000435221.6 | TNFRSF14  | ENSG00000157873  | TNF receptor superfamily member 14 Source HGNC Symbol Acc HGNC 11912         |
| G02      | SBH0089303 | ENST00000396495.3 | TNFRSF17  | ENSG00000048462  | TNF receptor superfamily member 17 Source HGNC Symbol Acc HGNC 11913         |
| G03      | SBH0080951 | ENST00000162749.6 | TNFRSF1A  | ENSG00000067182  | TNF receptor superfamily member 1A Source HGNC Symbol Acc HGNC 11916         |
| G04      | SBH1220475 | ENST00000536782.2 | TNFRSF1B  | ENSG00000028137  | TNF receptor superfamily member 1B Source HGNC Symbol Acc HGNC 11917         |
| G05      | SBH0554154 | ENST00000377782.7 | TNFRSF25  | ENSG000000215788 | TNF receptor superfamily member 25 Source HGNC Symbol Acc HGNC 11910         |
| G06      | SBH0433585 | ENST00000453580.1 | TNFRSF4   | ENSG000000186827 | TNF receptor superfamily member 4 Source HGNC Symbol Acc HGNC 11918          |
| G07      | SBH0035846 | ENST00000417814.3 | TNFRSF8   | ENSG000000120949 | TNF receptor superfamily member 8 Source HGNC Symbol Acc HGNC 11923          |
| G08      | SBH1220477 | ENST00000241261.7 | TNFSF10   | ENSG000000121858 | TNF superfamily member 10 Source HGNC Symbol Acc HGNC 11925                  |
| G09      | SBH0334858 | ENST00000374044.1 | TNFSF15   | ENSG000000181634 | TNF superfamily member 15 Source HGNC Symbol Acc HGNC 11931                  |
| G10      | SBH1220491 | ENST00000345057.9 | TRADD     | ENSG000000102871 | TNFRSF1A associated via death domain Source HGNC Symbol Acc HGNC 12030       |
| G11      | SBH1220492 | ENST00000247668.7 | TRAF2     | ENSG000000127191 | TNF receptor associated factor 2 Source HGNC Symbol Acc HGNC 12032           |
| G12      | SBH1220498 | ENST00000268483.8 | TXNL4B    | ENSG000000140830 | thioredoxin like 4B Source HGNC Symbol Acc HGNC 26041                        |
| H01      | SBH1220543 | ENST00000646664.1 | ACTB      | ENSG000000075624 | actin beta Source HGNC Symbol Acc HGNC 132                                   |
| H02      | SBH1220550 | ENST00000558401.6 | B2M       | ENSG000000166710 | beta-2-microglobulin Source HGNC Symbol Acc HGNC 914                         |
| H03      | SBH1220545 | ENST00000396861.5 | GAPDH     | ENSG000000111640 | glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141    |
| H04      | SBH1220546 | ENST00000298556.8 | HPRT1     | ENSG000000165704 | hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157    |
| H05      | SBH1220553 | ENST00000546989.5 | RPLP0     | ENSG000000089157 | 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.

Trademarks: QIAGEN®, LNA®, QuantiNova®, Sample to Insight® (QIAGEN Group); SYBR® (Life Technologies Corp.). Registered names, trademarks, etc. used in this document, even when not specifically marked as such, are not to be considered unprotected by law.

09/2019 © 2019 QIAGEN, all rights reserved.