

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

Human Telomeres & Telomerase

Cat. no. 249950 SBHS-010ZR

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 for further details.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---------|--------|-------|-------|---------|-------|---------|-----------|---------|----------|---------|---------|
| A | ABL1 | ACD | AKT1 | ATM | ATPSF1C | BCL2 | BLM | CDK2 | CHEK1 | CHEK2 | DCLRE1B | DCLRE1C |
| B | DKC1 | EGF | EME1 | ERCC1 | ERCC4 | GAR1 | HAT1 | HNRNPA2B1 | HNRNPD | HSP90AA1 | HSPA1L | IGF1 |
| C | KRAS | KRIT1 | MEN1 | MRE11 | MSH2 | MSH3 | MUS81 | MYC | NBN | NCL | NHP2 | NOPI0 |
| D | STN1 | PARP1 | PAX8 | PIF1 | PINX1 | PLK1 | POT1 | PPARG | PPP2R1A | PPP2R1B | PRKCA | PRKCB |
| E | PRKDC | PTGES3 | PURA | RAD17 | RAD50 | RAP1A | RAPGEF1 | RASSF1 | RB1 | RFC1 | RIF1 | RTEL1 |
| F | SART1 | SIRT2 | SIRT6 | SLX4 | SMAD3 | SMG6 | SP1 | SSB | SUN1 | TEP1 | TERF1 | TERF2 |
| G | TERF2IP | TERT | TGFB1 | TINF2 | TNKS | TNKS2 | TP53 | TP53BP1 | TPP1 | WRAP53 | XRCC5 | XRCC6 |
| 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 | SBH1219716 | ENST00000372348.6 | ABL1 | ENSG00000097007 | ABL proto-oncogene 1, non-receptor tyrosine kinase Source HGNC Symbol Acc HGNC 76 |
| A02 | SBH0096408 | ENST00000620761.6 | ACD | ENSG00000102977 | ACD, shelterin complex subunit and telomerase recruitment factor Source HGNC Symbol Acc HGNC 25070 |
| A03 | SBH0095396 | ENST00000555528.5 | AKT1 | ENSG00000142208 | AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391 |
| A04 | SBH1219763 | ENST00000452508.6 | ATM | ENSG00000149311 | ATM serine/threonine kinase Source HGNC Symbol Acc HGNC 795 |
| A05 | SBH0249503 | ENST00000335698.4 | ATP5F1C | ENSG00000165629 | ATP synthase F1 subunit gamma Source HGNC Symbol Acc HGNC 833 |
| A06 | SBH1219786 | ENST00000398117.1 | BCL2 | ENSG00000171791 | BCL2, apoptosis regulator Source HGNC Symbol Acc HGNC 990 |
| A07 | SBH1219799 | ENST00000355112.8 | BLM | ENSG00000197299 | BLM RecQ like helicase Source HGNC Symbol Acc HGNC 1058 |
| A08 | SBH1219872 | ENST00000553376.5 | CDK2 | ENSG00000123374 | cyclin dependent kinase 2 Source HGNC Symbol Acc HGNC 1771 |
| A09 | SBH1219885 | ENST00000534070.5 | CHEK1 | ENSG00000149554 | checkpoint kinase 1 Source HGNC Symbol Acc HGNC 1925 |
| A10 | SBH0661120 | ENST00000416671.5 | CHEK2 | ENSG00000183765 | checkpoint kinase 2 Source HGNC Symbol Acc HGNC 16627 |
| A11 | SBH0639189 | ENST00000369563.3 | DCLRE1B | ENSG00000118655 | DNA cross-link repair 1B Source HGNC Symbol Acc HGNC 17641 |
| A12 | SBH0219270 | ENST00000489161.1 | DCLRE1C | ENSG00000152457 | DNA cross-link repair 1C Source HGNC Symbol Acc HGNC 17642 |
| B01 | SBH1219951 | ENST00000369550.10 | DKC1 | ENSG00000130826 | dyskerin pseudouridine synthase 1 Source HGNC Symbol Acc HGNC 2890 |
| B02 | SBH0321686 | ENST00000265171.9 | EGF | ENSG00000138798 | epidermal growth factor Source HGNC Symbol Acc HGNC 3229 |
| B03 | SBH0024545 | ENST00000510246.1 | EME1 | ENSG00000154920 | essential meiotic structure-specific endonuclease 1 Source HGNC Symbol Acc HGNC 24965 |
| B04 | SBH1219982 | ENST00000300853.7 | ERCC1 | ENSG00000102061 | ERCC excision repair 1, endonuclease non-catalytic subunit Source HGNC Symbol Acc HGNC 3433 |
| B05 | SBH0206950 | ENST00000574194.1 | ERCC4 | ENSG00000175595 | ERCC excision repair 4, endonuclease catalytic subunit Source HGNC Symbol Acc HGNC 3436 |
| B06 | SBH0226346 | ENST00000503671.2 | GAR1 | ENSG00000109534 | GAR1 ribonucleoprotein Source HGNC Symbol Acc HGNC 14264 |
| B07 | SBH1220047 | ENST00000264108.5 | HAT1 | ENSG00000128708 | histone acetyltransferase 1 Source HGNC Symbol Acc HGNC 4821 |
| B08 | SBH0271357 | ENST00000360787.8 | HNRNPA2B1 | ENSG00000122566 | heterogeneous nuclear ribonucleoprotein A2/B1 Source HGNC Symbol Acc HGNC 5033 |
| B09 | SBH0302681 | ENST00000503822.1 | HNRNPD | ENSG00000138668 | heterogeneous nuclear ribonucleoprotein D Source HGNC Symbol Acc HGNC 5036 |
| B10 | SBH0323386 | ENST00000334701.11 | HSP90AA1 | ENSG00000080824 | heat shock protein 90 alpha family class A member 1 Source HGNC Symbol Acc HGNC 5253 |
| B11 | SBH0418033 | ENST00000375654.5 | HSPA1L | ENSG00000204390 | heat shock protein family A (Hsp70) member 1 like Source HGNC Symbol Acc HGNC 5234 |
| B12 | SBH1220091 | ENST00000337514.10 | IGF1 | ENSG00000017427 | insulin like growth factor 1 Source HGNC Symbol Acc HGNC 5464 |
| C01 | SBH0300474 | ENST00000556131.1 | KRAS | ENSG00000133703 | KRAS proto-oncogene, GTPase Source HGNC Symbol Acc HGNC 6407 |
| C02 | SBH0557737 | ENST00000394507.5 | KRIT1 | ENSG00000001631 | KRIT1, ankyrin repeat containing Source HGNC Symbol Acc HGNC 1573 |
| C03 | SBH0088177 | ENST00000377313.5 | MEN1 | ENSG00000133895 | menin 1 Source HGNC Symbol Acc HGNC 7010 |
| C04 | SBH0627154 | ENST00000323977.7 | MRE11 | ENSG00000020922 | MRE11 homolog, double strand break repair nuclease Source HGNC Symbol Acc HGNC 7230 |
| C05 | SBH1220228 | ENST00000233146.6 | MSH2 | ENSG00000095002 | mutS homolog 2 Source HGNC Symbol Acc HGNC 7325 |
| C06 | SBH1220229 | ENST00000265081.7 | MSH3 | ENSG00000113318 | mutS homolog 3 Source HGNC Symbol Acc HGNC 7326 |
| C07 | SBH0149092 | ENST00000533035.5 | MUS81 | ENSG00000172732 | MUS81 structure-specific endonuclease subunit Source HGNC Symbol Acc HGNC 29814 |
| C08 | SBH0426145 | ENST00000524013.1 | MYC | ENSG00000136997 | MYC proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7553 |
| C09 | SBH0220644 | ENST00000265433.7 | NBN | ENSG00000104320 | nibrin Source HGNC Symbol Acc HGNC 7652 |
| C10 | SBH0569167 | ENST00000322723.9 | NCL | ENSG00000115053 | nucleolin Source HGNC Symbol Acc HGNC 7667 |
| | | ENST00000274 | | ENSG000000 | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|----------|------------|--------------------|---------|-----------------|--|
| C11 | SBH0263016 | 606.7 | NHP2 | 145912 | NHP2 ribonucleoprotein Source HGNC Symbol Acc HGNC 14377 |
| C12 | SBH0393319 | ENST00000328848.5 | NOP10 | ENSG00000182117 | NOP10 ribonucleoprotein Source HGNC Symbol Acc HGNC 14378 |
| D01 | SBH0522196 | ENST00000224950.8 | STN1 | ENSG00000107960 | STN1, CST complex subunit Source HGNC Symbol Acc HGNC 26200 |
| D02 | SBH1220289 | ENST00000366794.10 | PARP1 | ENSG00000143799 | poly(ADP-ribose) polymerase 1 Source HGNC Symbol Acc HGNC 270 |
| D03 | SBH0425438 | ENST00000429538.8 | PAX8 | ENSG00000125618 | paired box 8 Source HGNC Symbol Acc HGNC 8622 |
| D04 | SBH0338376 | ENST00000559872.1 | PIF1 | ENSG00000140451 | PIF1 5'-to-3' DNA helicase Source HGNC Symbol Acc HGNC 26220 |
| D05 | SBH1220548 | ENST00000519088.5 | PINX1 | ENSG00000254093 | PIN2 (TERF1) interacting telomerase inhibitor 1 Source HGNC Symbol Acc HGNC 30046 |
| D06 | SBH0192284 | ENST00000562272.5 | PLK1 | ENSG00000166851 | polo like kinase 1 Source HGNC Symbol Acc HGNC 9077 |
| D07 | SBH0487114 | ENST00000609106.5 | POT1 | ENSG00000128513 | protection of telomeres 1 Source HGNC Symbol Acc HGNC 17284 |
| D08 | SBH0521265 | ENST00000652522.1 | PPARG | ENSG00000132170 | peroxisome proliferator activated receptor gamma Source HGNC Symbol Acc HGNC 9236 |
| D09 | SBH0592683 | ENST00000454220.6 | PPP2R1A | ENSG00000105568 | protein phosphatase 2 scaffold subunit Aalpha Source HGNC Symbol Acc HGNC 9302 |
| D10 | SBH0598427 | ENST00000341980.10 | PPP2R1B | ENSG00000137713 | protein phosphatase 2 scaffold subunit Abeta Source HGNC Symbol Acc HGNC 9303 |
| D11 | SBH0105563 | ENST00000578063.5 | PRKCA | ENSG00000154229 | protein kinase C alpha Source HGNC Symbol Acc HGNC 9393 |
| D12 | SBH0521170 | ENST00000472066.1 | PRKCB | ENSG00000166501 | protein kinase C beta Source HGNC Symbol Acc HGNC 9395 |
| E01 | SBH0182228 | ENST00000314191.6 | PRKDC | ENSG00000253729 | protein kinase, DNA-activated, catalytic subunit Source HGNC Symbol Acc HGNC 9413 |
| E02 | SBH0469595 | ENST00000456859.2 | PTGES3 | ENSG00000110958 | prostaglandin E synthase 3 Source HGNC Symbol Acc HGNC 16049 |
| E03 | SBH0447104 | ENST00000331327.4 | PURA | ENSG00000185129 | purine rich element binding protein A Source HGNC Symbol Acc HGNC 9701 |
| E04 | SBH0068778 | ENST00000305138.8 | RAD17 | ENSG00000152942 | RAD17 checkpoint clamp loader component Source HGNC Symbol Acc HGNC 9807 |
| E05 | SBH1220354 | ENST00000651541.1 | RAD50 | ENSG00000113522 | RAD50 double strand break repair protein Source HGNC Symbol Acc HGNC 9816 |
| E06 | SBH0176409 | ENST00000356415.5 | RAP1A | ENSG00000116473 | RAP1A, member of RAS oncogene family Source HGNC Symbol Acc HGNC 9855 |
| E07 | SBH0395905 | ENST00000372195.5 | RAPGEF1 | ENSG00000107263 | Rap guanine nucleotide exchange factor 1 Source HGNC Symbol Acc HGNC 4568 |
| E08 | SBH0462049 | ENST00000359365.8 | RASSF1 | ENSG00000068028 | Ras association domain family member 1 Source HGNC Symbol Acc HGNC 9882 |
| E09 | SBH0093533 | ENST00000267163.5 | RB1 | ENSG00000139687 | RB transcriptional corepressor 1 Source HGNC Symbol Acc HGNC 9884 |
| E10 | SBH0414080 | ENST00000639695.1 | RFC1 | ENSG00000035928 | replication factor C subunit 1 Source HGNC Symbol Acc HGNC 9969 |
| E11 | SBH0244509 | ENST00000414861.6 | RIF1 | ENSG00000080345 | replication timing regulatory factor 1 Source HGNC Symbol Acc HGNC 23207 |
| E12 | SBH0125731 | ENST00000508582.6 | RTEL1 | ENSG00000258366 | regulator of telomere elongation helicase 1 Source HGNC Symbol Acc HGNC 15888 |
| F01 | SBH0304771 | ENST00000530251.1 | SART1 | ENSG00000175467 | spliceosome associated factor 1, recruiter of U4/U6.U5 tri-snRNP Source HGNC Symbol Acc HGNC 10538 |
| F02 | SBH1220399 | ENST00000414941.5 | SIRT2 | ENSG00000068903 | sirtuin 2 Source HGNC Symbol Acc HGNC 10886 |
| F03 | SBH0167793 | ENST00000601571.1 | SIRT6 | ENSG00000077463 | sirtuin 6 Source HGNC Symbol Acc HGNC 14934 |
| F04 | SBH0337044 | ENST00000486524.1 | SLX4 | ENSG00000188827 | SLX4 structure-specific endonuclease subunit Source HGNC Symbol Acc HGNC 23845 |
| F05 | SBH0216540 | ENST00000558428.5 | SMAD3 | ENSG00000166949 | SMAD family member 3 Source HGNC Symbol Acc HGNC 6769 |
| F06 | SBH0333107 | ENST00000570659.5 | SMG6 | ENSG00000070366 | SMG6, nonsense mediated mRNA decay factor Source HGNC Symbol Acc HGNC 17809 |
| F07 | SBH1220419 | ENST00000426431.2 | SP1 | ENSG00000185591 | Sp1 transcription factor Source HGNC Symbol Acc HGNC 11205 |
| F08 | SBH0043264 | ENST00000465871.1 | SSB | ENSG00000138385 | Sjogren syndrome antigen B Source HGNC Symbol Acc HGNC 11316 |
| F09 | SBH0092096 | ENST00000413171.6 | SUN1 | ENSG00000164828 | Sad1 and UNC84 domain containing 1 Source HGNC Symbol Acc HGNC 18587 |
| F10 | SBH1220438 | ENST00000556935.5 | TEP1 | ENSG00000129566 | telomerase associated protein 1 Source HGNC Symbol Acc HGNC 11726 |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|----------|------------|--------------------|---------|-----------------|--|
| F11 | SBH1220439 | ENST00000276603.10 | TERF1 | ENSG00000147601 | telomeric repeat binding factor 1 Source HGNC Symbol Acc HGNC 11728 |
| F12 | SBH0165409 | ENST00000567296.6 | TERF2 | ENSG00000132604 | telomeric repeat binding factor 2 Source HGNC Symbol Acc HGNC 11729 |
| G01 | SBH0277729 | ENST00000300086.5 | TERF2IP | ENSG00000166848 | TERF2 interacting protein Source HGNC Symbol Acc HGNC 19246 |
| G02 | SBH0606096 | ENST00000334602.10 | TERT | ENSG00000164362 | telomerase reverse transcriptase Source HGNC Symbol Acc HGNC 11730 |
| G03 | SBH1220443 | ENST00000598758.5 | TGFB1 | ENSG00000105329 | transforming growth factor beta 1 Source NCBI gene Acc 7040 |
| G04 | SBH0207369 | ENST00000399423.8 | TINF2 | ENSG00000092330 | TERF1 interacting nuclear factor 2 Source HGNC Symbol Acc HGNC 11824 |
| G05 | SBH1220482 | ENST00000310430.11 | TNKS | ENSG00000173273 | tankyrase Source HGNC Symbol Acc HGNC 11941 |
| G06 | SBH1220483 | ENST00000371627.5 | TNKS2 | ENSG00000107854 | tankyrase 2 Source HGNC Symbol Acc HGNC 15677 |
| G07 | SBH1220486 | ENST00000445888.6 | TP53 | ENSG00000141510 | tumor protein p53 Source HGNC Symbol Acc HGNC 11998 |
| G08 | SBH0344481 | ENST00000263801.7 | TP53BP1 | ENSG00000067369 | tumor protein p53 binding protein 1 Source HGNC Symbol Acc HGNC 11999 |
| G09 | SBH0302755 | ENST00000428886.7 | TPP1 | ENSG00000166340 | tripeptidyl peptidase 1 Source HGNC Symbol Acc HGNC 2073 |
| G10 | SBH0151700 | ENST00000431639.6 | WRAP53 | ENSG00000141499 | WD repeat containing antisense to TP53 Source HGNC Symbol Acc HGNC 25522 |
| G11 | SBH0094175 | ENST00000429133.5 | XRCC5 | ENSG00000079246 | X-ray repair cross complementing 5 Source HGNC Symbol Acc HGNC 12833 |
| G12 | SBH0066094 | ENST00000360079.7 | XRCC6 | ENSG00000196419 | X-ray repair cross complementing 6 Source HGNC Symbol Acc HGNC 4055 |
| 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 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 SYBR Green RT-PCR Kit (100)* | For 100 x 20 μ l reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 μ l QuantiNova SYBR Green 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 | 208152 |
| QuantiNova SYBR Green PCR Kit (100)* | For 100 x 20 μ l reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 μ l QuantiNova Yellow Template Dilution Buffer, 250 μ 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.

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