

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

Human DNA Damage Signaling Pathway

Cat. no. 249955 UPHS-029ZR

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 | APEX1 | ATM | ATR | ATRIP | ATRX | BARD1 | BAX | BBC3 | BLM | BRCA1 | BRIP1 |
| B | CDC25A | CDC25C | CDK7 | CDKN1A | CHEK1 | CHEK2 | CIB1 | CRY1 | CSNK2A2 | DDB1 | DDB2 | DDIT3 |
| C | ERCC1 | ERCC2 | EXO1 | FANCA | FANCD2 | FANCG | FEN1 | GADD45A | GADD45G | H2AFX | HUS1 | LIG1 |
| D | MAPK12 | MBD4 | MCPH1 | MDC1 | MLH1 | MLH3 | MPG | MRE11 | MSH2 | MSH3 | NBN | NTHL1 |
| E | OGG1 | PARP1 | PCNA | PMS1 | PMS2 | PNKP | PPM1D | PPP1R15A | PRKDC | RAD1 | RAD17 | RAD18 |
| F | RAD21 | RAD50 | RAD51 | RAD51B | RAD9A | RBBP8 | REV1 | RNF168 | RNF8 | RPA1 | SIRT1 | SMC1A |
| G | SUMO1 | TOPBP1 | TP53 | TP53BP1 | TP73 | UNG | XPA | XPC | XRCC1 | XRCC2 | XRCC3 | XRCC6 |
| 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 | UPFH0321059 | ENST00000555414.5 | APEX1 | ENSG00000100823 | apurinic/apyrimidinic endodeoxyribonuclease 1 Source HGNC Symbol Acc HGNC 587 |
| A03 | UPFH1132252 | ENST00000527805.5 | ATM | ENSG00000149311 | ATM serine/threonine kinase Source HGNC Symbol Acc HGNC 795 |
| A04 | UPFH1132260 | ENST00000350721.9 | ATR | ENSG00000175054 | ATR serine/threonine kinase Source HGNC Symbol Acc HGNC 882 |
| A05 | UPFH0008827 | ENST00000346691.9 | ATRIP | ENSG00000164053 | ATR interacting protein Source HGNC Symbol Acc HGNC 33499 |
| A06 | UPFH0416302 | ENST00000373344.10 | ATRX | ENSG00000085224 | ATRX, chromatin remodeler Source HGNC Symbol Acc HGNC 886 |
| A07 | UPFH1132268 | ENST00000260947.9 | BARD1 | ENSG00000138376 | BRCA1 associated RING domain 1 Source HGNC Symbol Acc HGNC 952 |
| A08 | UPFH0540159 | ENST00000293288.12 | BAX | ENSG00000087088 | BCL2 associated X, apoptosis regulator Source HGNC Symbol Acc HGNC 959 |
| A09 | UPFH0224436 | ENST00000439096.2 | BBC3 | ENSG00000105327 | BCL2 binding component 3 Source HGNC Symbol Acc HGNC 17868 |
| A10 | UPFH1132273 | ENST00000355112.8 | BLM | ENSG00000197299 | BLM RecQ like helicase Source HGNC Symbol Acc HGNC 1058 |
| A11 | UPFH1132279 | ENST00000461574.1 | BRCA1 | ENSG00000012048 | BRCA1, DNA repair associated Source HGNC Symbol Acc HGNC 1100 |
| A12 | UPFH0603696 | ENST00000259008.6 | BRIP1 | ENSG00000136492 | BRCA1 interacting protein C-terminal helicase 1 Source HGNC Symbol Acc HGNC 20473 |
| B01 | UPFH0432792 | ENST00000302506.7 | CDC25A | ENSG00000164045 | cell division cycle 25A Source HGNC Symbol Acc HGNC 1725 |
| B02 | UPFH1132304 | ENST00000513970.5 | CDC25C | ENSG00000158402 | cell division cycle 25C Source HGNC Symbol Acc HGNC 1727 |
| B03 | UPFH1132310 | ENST00000256443.8 | CDK7 | ENSG00000134058 | cyclin dependent kinase 7 Source HGNC Symbol Acc HGNC 1778 |
| B04 | UPFH0312181 | ENST00000244741.9 | CDKN1A | ENSG00000124762 | cyclin dependent kinase inhibitor 1A Source HGNC Symbol Acc HGNC 1784 |
| B05 | UPFH1132313 | ENST00000427383.6 | CHEK1 | ENSG00000149554 | checkpoint kinase 1 Source HGNC Symbol Acc HGNC 1925 |
| B06 | UPFH1132314 | ENST00000439200.5 | CHEK2 | ENSG00000183765 | checkpoint kinase 2 Source HGNC Symbol Acc HGNC 16627 |
| B07 | UPFH0252955 | ENST00000328649.10 | CIB1 | ENSG00000185043 | calcium and integrin binding 1 Source HGNC Symbol Acc HGNC 16920 |
| B08 | UPFH1132336 | ENST00000008527.10 | CRY1 | ENSG00000008405 | cryptochrome circadian regulator 1 Source HGNC Symbol Acc HGNC 2384 |
| B09 | UPFH0043887 | ENST00000563307.1 | CSNK2A2 | ENSG00000070770 | casein kinase 2 alpha 2 Source HGNC Symbol Acc HGNC 2459 |
| B10 | UPFH0061420 | ENST00000301764.11 | DDB1 | ENSG00000167986 | damage specific DNA binding protein 1 Source HGNC Symbol Acc HGNC 2717 |
| B11 | UPFH0224958 | ENST00000256996.8 | DDB2 | ENSG00000134574 | damage specific DNA binding protein 2 Source HGNC Symbol Acc HGNC 2718 |
| B12 | UPFH0523891 | ENST00000346473.7 | DDIT3 | ENSG00000175197 | DNA damage inducible transcript 3 Source HGNC Symbol Acc HGNC 2726 |
| C01 | UPFH0129620 | ENST00000300853.7 | ERCC1 | ENSG00000012061 | ERCC excision repair 1, endonuclease non-catalytic subunit Source HGNC Symbol Acc HGNC 3433 |
| C02 | UPFH0404848 | ENST00000391945.9 | ERCC2 | ENSG00000104884 | ERCC excision repair 2, TFIIH core complex helicase subunit Source HGNC Symbol Acc HGNC 3434 |
| C03 | UPFH1132390 | ENST00000348581.9 | EXO1 | ENSG00000174371 | exonuclease 1 Source HGNC Symbol Acc HGNC 3511 |
| C04 | UPFH1132394 | ENST00000389301.8 | FANCA | ENSG00000187741 | FA complementation group A Source HGNC Symbol Acc HGNC 3582 |
| C05 | UPFH0068649 | ENST00000287647.7 | FANCD2 | ENSG00000144554 | FA complementation group D2 Source HGNC Symbol Acc HGNC 3585 |
| C06 | UPFH0300954 | ENST00000378643.7 | FANCG | ENSG00000221829 | FA complementation group G Source HGNC Symbol Acc HGNC 3588 |
| C07 | UPFH1132971 | ENST00000305885.3 | FEN1 | ENSG00000168496 | flap structure-specific endonuclease 1 Source HGNC Symbol Acc HGNC 3650 |
| C08 | UPFH1132413 | ENST00000370985.4 | GADD45A | ENSG00000116717 | growth arrest and DNA damage inducible alpha Source HGNC Symbol Acc HGNC 4095 |
| C09 | UPFH1132415 | ENST00000375769.1 | GADD45G | ENSG00000130222 | growth arrest and DNA damage inducible gamma Source HGNC Symbol Acc HGNC 4097 |
| C10 | UPFH0604374 | ENST00000530167.1 | H2AFX | ENSG00000188486 | H2A histone family member X Source HGNC Symbol Acc HGNC 4739 |
| | | ENST00000258 | | ENSG000000 | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|----------|-------------|--------------------|----------|------------------|---|
| C11 | UPFH1132461 | 774.10 | HUS1 | 136273 | HUS1 checkpoint clamp component Source HGNC Symbol Acc HGNC 5309 |
| C12 | UPFH1132521 | ENST00000536218.5 | LIG1 | ENSG00000105486 | DNA ligase 1 Source HGNC Symbol Acc HGNC 6598 |
| D01 | UPFH1132533 | ENST00000395778.3 | MAPK12 | ENSG00000188130 | mitogen-activated protein kinase 12 Source HGNC Symbol Acc HGNC 6874 |
| D02 | UPFH1132537 | ENST00000393278.6 | MBD4 | ENSG00000129071 | methyl-CpG binding domain 4, DNA glycosylase Source HGNC Symbol Acc HGNC 6919 |
| D03 | UPFH1132541 | ENST00000344683.10 | MCPH1 | ENSG00000147316 | microcephalin 1 Source HGNC Symbol Acc HGNC 6954 |
| D04 | UPFH1132542 | ENST00000376406.8 | MDC1 | ENSG00000137337 | mediator of DNA damage checkpoint 1 Source HGNC Symbol Acc HGNC 21163 |
| D05 | UPFH0346001 | ENST00000231790.6 | MLH1 | ENSG00000076242 | mutL homolog 1 Source HGNC Symbol Acc HGNC 7127 |
| D06 | UPFH0286592 | ENST00000380968.6 | MLH3 | ENSG00000119684 | mutL homolog 3 Source HGNC Symbol Acc HGNC 7128 |
| D07 | UPFH1132554 | ENST00000219431.4 | MPG | ENSG00000103152 | N-methylpurine DNA glycosylase Source HGNC Symbol Acc HGNC 7211 |
| D08 | UPFH1132556 | ENST00000323977.7 | MRE11 | ENSG00000020922 | MRE11 homolog, double strand break repair nuclease Source HGNC Symbol Acc HGNC 7230 |
| D09 | UPFH0051784 | ENST00000233146.6 | MSH2 | ENSG00000095002 | mutS homolog 2 Source HGNC Symbol Acc HGNC 7325 |
| D10 | UPFH1132557 | ENST00000265081.7 | MSH3 | ENSG00000113318 | mutS homolog 3 Source HGNC Symbol Acc HGNC 7326 |
| D11 | UPFH0612261 | ENST00000265433.7 | NBN | ENSG00000104320 | nibrin Source HGNC Symbol Acc HGNC 7652 |
| D12 | UPFH0509800 | ENST00000219066.5 | NTHL1 | ENSG00000065057 | nth like DNA glycosylase 1 Source HGNC Symbol Acc HGNC 8028 |
| E01 | UPFH1132601 | ENST00000349503.9 | OGG1 | ENSG00000114026 | 8-oxoguanine DNA glycosylase Source HGNC Symbol Acc HGNC 8125 |
| E02 | UPFH0203594 | ENST00000490921.5 | PARP1 | ENSG000000143799 | poly(ADP-ribose) polymerase 1 Source HGNC Symbol Acc HGNC 270 |
| E03 | UPFH1132607 | ENST00000379160.3 | PCNA | ENSG00000132646 | proliferating cell nuclear antigen Source HGNC Symbol Acc HGNC 8729 |
| E04 | UPFH0141655 | ENST00000441310.6 | PMS1 | ENSG00000064933 | PMS1 homolog 1, mismatch repair system component Source HGNC Symbol Acc HGNC 9121 |
| E05 | UPFH0009773 | ENST00000265849.12 | PMS2 | ENSG00000122512 | PMS1 homolog 2, mismatch repair system component Source HGNC Symbol Acc HGNC 9122 |
| E06 | UPFH1132883 | ENST00000600910.5 | PNKP | ENSG00000039650 | polynucleotide kinase 3-phosphatase Source HGNC Symbol Acc HGNC 9154 |
| E07 | UPFH0483639 | ENST00000305921.7 | PPM1D | ENSG000000170836 | protein phosphatase, Mg ²⁺ /Mn ²⁺ dependent 1D Source HGNC Symbol Acc HGNC 9277 |
| E08 | UPFH1132630 | ENST00000600406.1 | PPP1R15A | ENSG00000087074 | protein phosphatase 1 regulatory subunit 15A Source HGNC Symbol Acc HGNC 14375 |
| E09 | UPFH0575007 | ENST00000314191.6 | PRKDC | ENSG000000253729 | protein kinase, DNA-activated, catalytic subunit Source HGNC Symbol Acc HGNC 9413 |
| E10 | UPFH1132649 | ENST00000382038.7 | RAD1 | ENSG000000113456 | RAD1 checkpoint DNA exonuclease Source HGNC Symbol Acc HGNC 9806 |
| E11 | UPFH0301660 | ENST00000514626.1 | RAD17 | ENSG000000152942 | RAD17 checkpoint clamp loader component Source HGNC Symbol Acc HGNC 9807 |
| E12 | UPFH1132650 | ENST00000264926.7 | RAD18 | ENSG00000070950 | RAD18, E3 ubiquitin protein ligase Source HGNC Symbol Acc HGNC 18278 |
| F01 | UPFH0450827 | ENST00000297338.6 | RAD21 | ENSG000000164754 | RAD21 cohesin complex component Source HGNC Symbol Acc HGNC 9811 |
| F02 | UPFH1132922 | ENST00000416135.5 | RAD50 | ENSG000000113522 | RAD50 double strand break repair protein Source HGNC Symbol Acc HGNC 9816 |
| F03 | UPFH1132651 | ENST00000532743.6 | RAD51 | ENSG000000051180 | RAD51 recombinase Source HGNC Symbol Acc HGNC 9817 |
| F04 | UPFH1132652 | ENST00000487270.5 | RAD51B | ENSG000000182185 | RAD51 paralog B Source HGNC Symbol Acc HGNC 9822 |
| F05 | UPFH0394972 | ENST00000529100.5 | RAD9A | ENSG000000172613 | RAD9 checkpoint clamp component A Source HGNC Symbol Acc HGNC 9827 |
| F06 | UPFH0107667 | ENST00000399722.6 | RBBP8 | ENSG000000101773 | RB binding protein 8, endonuclease Source HGNC Symbol Acc HGNC 9891 |
| F07 | UPFH1132655 | ENST00000393445.7 | REV1 | ENSG000000135945 | REV1, DNA directed polymerase Source HGNC Symbol Acc HGNC 14060 |
| F08 | UPFH0514565 | ENST00000318037.3 | RNF168 | ENSG000000163961 | ring finger protein 168 Source HGNC Symbol Acc HGNC 26661 |
| F09 | UPFH0239835 | ENST00000469731.5 | RNF8 | ENSG000000112130 | ring finger protein 8 Source HGNC Symbol Acc HGNC 10071 |
| F10 | UPFH0075285 | ENST00000254719.9 | RPA1 | ENSG000000132383 | replication protein A1 Source HGNC Symbol Acc HGNC 10289 |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|----------|-------------|--------------------|---------|------------------|---|
| F11 | UPFH0388476 | ENST00000212015.11 | SIRT1 | ENSG00000096717 | sirtuin 1 Source HGNC Symbol Acc HGNC 14929 |
| F12 | UPFH0003409 | ENST00000322213.8 | SMC1A | ENSG00000072501 | structural maintenance of chromosomes 1A Source HGNC Symbol Acc HGNC 11111 |
| G01 | UPFH0226409 | ENST00000392246.6 | SUMO1 | ENSG000000116030 | small ubiquitin-like modifier 1 Source HGNC Symbol Acc HGNC 12502 |
| G02 | UPFH1132736 | ENST00000642236.1 | TOPBP1 | ENSG000000163781 | DNA topoisomerase II binding protein 1 Source HGNC Symbol Acc HGNC 17008 |
| G03 | UPFH0565795 | ENST00000269305.8 | TP53 | ENSG000000141510 | tumor protein p53 Source HGNC Symbol Acc HGNC 11998 |
| G04 | UPFH0035611 | ENST00000263801.7 | TP53BP1 | ENSG000000067369 | tumor protein p53 binding protein 1 Source HGNC Symbol Acc HGNC 11999 |
| G05 | UPFH1132927 | ENST00000354437.8 | TP73 | ENSG000000078900 | tumor protein p73 Source HGNC Symbol Acc HGNC 12003 |
| G06 | UPFH1132749 | ENST00000242576.6 | UNG | ENSG000000076248 | uracil DNA glycosylase Source HGNC Symbol Acc HGNC 12572 |
| G07 | UPFH0073963 | ENST00000375128.4 | XPA | ENSG000000136936 | XPA, DNA damage recognition and repair factor Source HGNC Symbol Acc HGNC 12814 |
| G08 | UPFH1132977 | ENST00000285021.11 | XPC | ENSG000000154767 | XPC complex subunit, DNA damage recognition and repair factor Source HGNC Symbol Acc HGNC 12816 |
| G09 | UPFH0485797 | ENST00000262887.9 | XRCC1 | ENSG000000073050 | X-ray repair cross complementing 1 Source HGNC Symbol Acc HGNC 12828 |
| G10 | UPFH1132767 | ENST00000359321.2 | XRCC2 | ENSG000000196584 | X-ray repair cross complementing 2 Source HGNC Symbol Acc HGNC 12829 |
| G11 | UPFH1132768 | ENST00000555055.6 | XRCC3 | ENSG000000126215 | X-ray repair cross complementing 3 Source HGNC Symbol Acc HGNC 12830 |
| G12 | UPFH0166937 | ENST00000360079.7 | XRCC6 | ENSG000000196419 | X-ray repair cross complementing 6 Source HGNC Symbol Acc HGNC 4055 |
| H01 | UPFH1132936 | ENST00000646664.1 | ACTB | ENSG000000075624 | actin beta Source HGNC Symbol Acc HGNC 132 |
| H02 | UPFH1132937 | ENST00000544417.5 | B2M | ENSG000000166710 | beta-2-microglobulin Source HGNC Symbol Acc HGNC 914 |
| H03 | UPFH1132938 | ENST00000229239.10 | GAPDH | ENSG000000111640 | glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141 |
| H04 | UPFH1132939 | ENST00000298556.8 | HPRT1 | ENSG000000165704 | hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157 |
| H05 | UPFH1132941 | ENST00000392514.9 | RPLP0 | ENSG000000089157 | 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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