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

# Rat Cellular Senescence

## Cat. no. 249955 UPRN-050ZR

## 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 | LOC100909750 | Akt1 | Aldh1a3 | Atm | Bmi1 | Calr | Ccna2 | Ccnb1 | Ccnd1 | Ccne1 | Cd44 | Cdc25c |
| B | Cdk2 | Cdk4 | Cdk6 | Cdkn1a | Cdkn1b | Cdkn1c | Cdkn2a | Cdkn2b | Cdkn2c | Nuak1 | Stt3a | Chek2 |
| C | Cited2 | Col1a1 | Col3a1 | Creg1 | E2f1 | E2f3 | Egr1 | Ets1 | Ets2 | Fn1 | Gadd45a | Glb1 |
| D | Gsk3b | Hras | Id1 | Ifng | Igf1 | Igf1r | Igfbp3 | Igfbp5 | Igfbp7 | Ing1 | Irf3 | Irf5 |
| E | Irf7 | Map2k1 | Map2k3 | Map2k6 | Mapk14 | Mdm2 | Morc3 | Myc | Nbn | Nfkb1 | Nox4 | Pcna |
| F | Pik3ca | Plau | Prkcd | Pten | Rb1 | Rbl1 | Rbl2 | Serpinb2 | Serpine1 | AABR07044925.1 | Sod1 | Sod2 |
| G | Sparc | Tbx2 | Tbx3 | Terf2 | Tert | Tgfb1 | Tgfb1i1 | Thbs1 | Tp53 | Tp53bp1 | Twist1 | Vim |
| H | Actb | B2m | Hprt1 | Ldha | Rplp1 | RGDC | QIC | QIC | QIC | PPC | PPC | PPC |

# Gene table: QuantiNova LNA Probe PCR Focus Panel

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| A01 | UPFR1117746 | ENSRNOT00000042495.5 | LOC100909750 | ENSRNOG00000047356 | tyrosine-protein kinase ABL1-like Source RGD Symbol Acc 6502032 |
| A02 | UPFR1083196 | ENSRNOT00000031164.3 | Akt1 | ENSRNOG00000028629 | AKT serine/threonine kinase 1 Source RGD Symbol Acc 2081 |
| A03 | UPFR1080324 | ENSRNOT00000085158.1 | Aldh1a3 | ENSRNOG00000052070 | aldehyde dehydrogenase 1 family, member A3 Source RGD Symbol Acc 628662 |
| A04 | UPFR1064948 | ENSRNOT00000086812.1 | Atm | ENSRNOG00000029773 | ATM serine/threonine kinase Source RGD Symbol Acc 1593265 |
| A05 | UPFR1103597 | ENSRNOT00000064257.2 | Bmi1 | ENSRNOG00000016585 | BMI1 proto-oncogene, polycomb ring finger Source RGD Symbol Acc 1307403 |
| A06 | UPFR1077775 | ENSRNOT00000004091.6 | Calr | ENSRNOG00000003029 | calreticulin Source RGD Symbol Acc 620288 |
| A07 | UPFR1066997 | ENSRNOT00000021156.6 | Ccna2 | ENSRNOG00000015423 | cyclin A2 Source RGD Symbol Acc 621059 |
| A08 | UPFR1042030 | ENSRNOT00000082846.1 | Ccnb1 | ENSRNOG00000058539 | cyclin B1 Source RGD Symbol Acc 2291 |
| A09 | UPFR1042457 | ENSRNOT00000088588.1 | Ccnd1 | ENSRNOG00000020918 | cyclin D1 Source RGD Symbol Acc 68384 |
| A10 | UPFR1117418 | ENSRNOT00000020014.4 | Ccne1 | ENSRNOG00000014786 | cyclin E1 Source RGD Symbol Acc 2294 |
| A11 | UPFR1040363 | ENSRNOT00000009073.7 | Cd44 | ENSRNOG00000006094 | CD44 molecule (Indian blood group) Source RGD Symbol Acc 2307 |
| A12 | UPFR1053484 | ENSRNOT00000037368.6 | Cdc25c | ENSRNOG00000024008 | cell division cycle 25C Source RGD Symbol Acc 1311875 |
| B01 | UPFR1076908 | ENSRNOT00000031963.3 | Cdk2 | ENSRNOG00000006469 | cyclin dependent kinase 2 Source RGD Symbol Acc 70486 |
| B02 | UPFR1035170 | ENSRNOT00000031796.4 | Cdk4 | ENSRNOG00000025602 | cyclin-dependent kinase 4 Source RGD Symbol Acc 621120 |
| B03 | UPFR1110184 | ENSRNOT00000012597.6 | Cdk6 | ENSRNOG00000009258 | cyclin-dependent kinase 6 Source RGD Symbol Acc 621121 |
| B04 | UPFR1028644 | ENSRNOT00000091731.1 | Cdkn1a | ENSRNOG00000000521 | cyclin-dependent kinase inhibitor 1A Source RGD Symbol Acc 69328 |
| B05 | UPFR1069360 | ENSRNOT00000049848.1 | Cdkn1b | ENSRNOG00000007249 | cyclin-dependent kinase inhibitor 1B Source RGD Symbol Acc 69062 |
| B06 | UPFR1068211 | ENSRNOT00000078944.1 | Cdkn1c | ENSRNOG00000059500 | cyclin-dependent kinase inhibitor 1C Source RGD Symbol Acc 727892 |
| B07 | UPFR1104432 | ENSRNOT00000079251.1 | Cdkn2a | ENSRNOG00000059837 | cyclin-dependent kinase inhibitor 2A Source RGD Symbol Acc 2323 |
| B08 | UPFR1115067 | ENSRNOT00000092196.1 | Cdkn2b | ENSRNOG00000006735 | cyclin-dependent kinase inhibitor 2B Source RGD Symbol Acc 2324 |
| B09 | UPFR1024713 | ENSRNOT00000012088.7 | Cdkn2c | ENSRNOG00000008956 | cyclin-dependent kinase inhibitor 2C Source RGD Symbol Acc 2325 |
| B10 | UPFR1064038 | ENSRNOT00000010636.6 | Nuak1 | ENSRNOG00000008061 | NUAK family kinase 1 Source RGD Symbol Acc 1309956 |
| B11 | UPFR1067768 | ENSRNOT00000082086.1 | Stt3a | ENSRNOG00000031896 | STT3A, catalytic subunit of the oligosaccharyltransferase complex Source RGD Symbol Acc 1565793 |
| B12 | UPFR1077555 | ENSRNOT00000085591.1 | Chek2 | ENSRNOG00000037509 | checkpoint kinase 2 Source RGD Symbol Acc 621543 |
| C01 | UPFR1017367 | ENSRNOT00000086790.1 | Cited2 | ENSRNOG00000056940 | Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 2 Source RGD Symbol Acc 620112 |
| C02 | UPFR1053469 | ENSRNOT00000005311.6 | Col1a1 | ENSRNOG00000003897 | collagen type I alpha 1 chain Source RGD Symbol Acc 61817 |
| C03 | UPFR1066020 | ENSRNOT00000004956.4 | Col3a1 | ENSRNOG00000003357 | collagen type III alpha 1 chain Source RGD Symbol Acc 71029 |
| C04 | UPFR1072826 | ENSRNOT00000004394.6 | Creg1 | ENSRNOG00000003291 | cellular repressor of E1A-stimulated genes 1 Source RGD Symbol Acc 1306804 |
| C05 | UPFR1077824 | ENSRNOT00000022428.6 | E2f1 | ENSRNOG00000016708 | N-terminal EF-hand calcium binding protein 3 Source RGD Symbol Acc 1310124 |
| C06 | UPFR1062133 | ENSRNOT00000081368.1 | E2f3 | ENSRNOG00000029273 | E2F transcription factor 3 Source RGD Symbol Acc 1561600 |
| C07 | UPFR1034050 | ENSRNOT00000026303.4 | Egr1 | ENSRNOG00000019422 | early growth response 1 Source RGD Symbol Acc 2544 |
| C08 | UPFR1072908 | ENSRNOT00000011925.4 | Ets1 | ENSRNOG00000008941 | ETS proto-oncogene 1, transcription factor Source RGD Symbol Acc 2583 |
| C09 | UPFR1103791 | ENSRNOT00000002247.6 | Ets2 | ENSRNOG00000001647 | ETS proto-oncogene 2, transcription factor Source RGD Symbol Acc 1584977 |
| C10 | UPFR1089380 | ENSRNOT00000057585.4 | Fn1 | ENSRNOG00000014288 | fibronectin 1 Source RGD Symbol Acc 2624 |
| | | ENSRNOT00000 | | ENSRNOG00 | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| C11 | UPFR1092990 | 007698.6 | Gadd45a | 000005615 | growth arrest and DNA-damage-inducible, alpha Source RGD Symbol Acc 2654 |
| C12 | UPFR1106249 | ENSRNOT00000 013632.5 | Glb1 | ENSRNOG00 000010196 | galactosidase, beta 1 Source RGD Symbol Acc 1597145 |
| D01 | UPFR1109626 | ENSRNOT00000 077612.1 | Gsk3b | ENSRNOG00 000002833 | glycogen synthase kinase 3 beta Source RGD Symbol Acc 70982 |
| D02 | UPFR1076419 | ENSRNOT00000 022363.6 | Hras | ENSRNOG00 000016611 | HRas proto-oncogene, GTPase Source RGD Symbol Acc 2827 |
| D03 | UPFR1039525 | ENSRNOT00000 029660.5 | Id1 | ENSRNOG00 000021750 | inhibitor of DNA binding 1, HLH protein Source RGD Symbol Acc 2858 |
| D04 | UPFR1084134 | ENSRNOT00000 009919.2 | Ifng | ENSRNOG00 000007468 | interferon gamma Source RGD Symbol Acc 2866 |
| D05 | UPFR1050099 | ENSRNOT00000 038780.6 | Igf1 | ENSRNOG00 000004517 | insulin-like growth factor 1 Source RGD Symbol Acc 2868 |
| D06 | UPFR1018620 | ENSRNOT00000 019267.6 | Igf1r | ENSRNOG00 000014187 | insulin-like growth factor 1 receptor Source RGD Symbol Acc 2869 |
| D07 | UPFR1013429 | ENSRNOT00000 088355.1 | Igfbp3 | ENSRNOG00 000061910 | insulin-like growth factor binding protein 3 Source RGD Symbol Acc 2874 |
| D08 | UPFR1090111 | ENSRNOT00000 079493.1 | Igfbp5 | ENSRNOG00 000017206 | insulin-like growth factor binding protein 5 Source RGD Symbol Acc 2876 |
| D09 | UPFR1107856 | ENSRNOT00000 002809.4 | Igfbp7 | ENSRNOG00 000002050 | insulin-like growth factor binding protein 7 Source RGD Symbol Acc 1306201 |
| D10 | UPFR1028569 | ENSRNOT00000 019454.7 | Ing1 | ENSRNOG00 000014520 | inhibitor of growth family, member 1 Source RGD Symbol Acc 1306330 |
| D11 | UPFR1094379 | ENSRNOT00000 027786.6 | Irf3 | ENSRNOG00 000043388 | interferon regulatory factor 3 Source RGD Symbol Acc 1549774 |
| D12 | UPFR1052261 | ENSRNOT00000 010001.6 | Irf5 | ENSRNOG00 000007437 | interferon regulatory factor 5 Source RGD Symbol Acc 1310447 |
| E01 | UPFR1018556 | ENSRNOT00000 023504.6 | Irf7 | ENSRNOG00 000017414 | interferon regulatory factor 7 Source RGD Symbol Acc 1307828 |
| E02 | UPFR1053192 | ENSRNOT00000 013933.6 | Map2k1 | ENSRNOG00 000010176 | mitogen activated protein kinase kinase 1 Source RGD Symbol Acc 70495 |
| E03 | UPFR1058261 | ENSRNOT00000 073792.2 | Map2k3 | ENSRNOG00 000049132 | mitogen activated protein kinase kinase 3 Source RGD Symbol Acc 1306620 |
| E04 | UPFR1098004 | ENSRNOT00000 006217.6 | Map2k6 | ENSRNOG00 000004437 | mitogen-activated protein kinase kinase 6 Source RGD Symbol Acc 620666 |
| E05 | UPFR1036984 | ENSRNOT00000 000617.8 | Mapk14 | ENSRNOG00 000000513 | mitogen activated protein kinase 14 Source RGD Symbol Acc 70496 |
| E06 | UPFR1073822 | ENSRNOT00000 066767.2 | Mdm2 | ENSRNOG00 000006304 | MDM2 proto-oncogene Source RGD Symbol Acc 1305332 |
| E07 | UPFR1109509 | ENSRNOT00000 076473.2 | Morc3 | ENSRNOG00 000026236 | MORC family CW-type zinc finger 3 Source RGD Symbol Acc 1307924 |
| E08 | UPFR1101439 | ENSRNOT00000 006188.5 | Myc | ENSRNOG00 000004500 | MYC proto-oncogene, bHLH transcription factor Source RGD Symbol Acc 3130 |
| E09 | UPFR1078597 | ENSRNOT00000 012377.4 | Nbn | ENSRNOG00 000008580 | nibrin Source RGD Symbol Acc 621420 |
| E10 | UPFR1116688 | ENSRNOT00000 036838.4 | Nfkb1 | ENSRNOG00 000023258 | nuclear factor kappa B subunit 1 Source RGD Symbol Acc 70498 |
| E11 | UPFR1087720 | ENSRNOT00000 018990.6 | Nox4 | ENSRNOG00 000013925 | NADPH oxidase 4 Source RGD Symbol Acc 620600 |
| E12 | UPFR1093185 | ENSRNOT00000 028887.6 | Pcna | ENSRNOG00 000021264 | proliferating cell nuclear antigen Source RGD Symbol Acc 3269 |
| F01 | UPFR1035210 | ENSRNOT00000 083720.1 | Pik3ca | ENSRNOG00 000056371 | phosphatidylinositol-4,5-bisphosphate 3-kinase, catalytic subunit alpha Source RGD Symbol Acc 620916 |
| F02 | UPFR1088915 | ENSRNOT00000 014273.5 | Plau | ENSRNOG00 000010516 | plasminogen activator, urokinase Source RGD Symbol Acc 3343 |
| F03 | UPFR1045135 | ENSRNOT00000 025858.7 | Prkcd | ENSRNOG00 000016346 | protein kinase C, delta Source RGD Symbol Acc 67383 |
| F04 | UPFR1043890 | ENSRNOT00000 028143.3 | Pten | ENSRNOG00 000020723 | phosphatase and tensin homolog Source RGD Symbol Acc 61995 |
| F05 | UPFR1039430 | ENSRNOT00000 021752.5 | Rb1 | ENSRNOG00 000016029 | RB transcriptional corepressor 1 Source RGD Symbol Acc 3540 |
| F06 | UPFR1052306 | ENSRNOT00000 064824.3 | Rbl1 | ENSRNOG00 000006921 | RB transcriptional corepressor like 1 Source RGD Symbol Acc 1595511 |
| F07 | UPFR1077781 | ENSRNOT00000 017361.3 | Rbl2 | ENSRNOG00 000012153 | RB transcriptional corepressor like 2 Source RGD Symbol Acc 3541 |
| F08 | UPFR1020681 | ENSRNOT00000 003409.5 | Serpinb2 | ENSRNOG00 000002460 | serpin family B member 2 Source RGD Symbol Acc 621823 |
| F09 | UPFR1051798 | ENSRNOT00000 001916.2 | Serpine1 | ENSRNOG00 000001414 | serpin family E member 1 Source RGD Symbol Acc 3249 |
| F10 | UPFR1112360 | ENSRNOT00000 078739.1 | AABR0704 4925.1 | ENSRNOG00 000051592 | sirtuin 1 Source NCBI gene Acc 309757 |
| | | | | | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| F11 | UPFR1062096 | ENSRNOT00000002885.6 | Sod1 | ENSRNOG00000002115 | superoxide dismutase 1 Source RGD Symbol Acc 3731 |
| F12 | UPFR1090502 | ENSRNOT00000025794.4 | Sod2 | ENSRNOG00000019048 | superoxide dismutase 2 Source RGD Symbol Acc 3732 |
| G01 | UPFR1099979 | ENSRNOT00000017486.7 | Sparc | ENSRNOG00000012840 | secreted protein acidic and cysteine rich Source RGD Symbol Acc 3742 |
| G02 | UPFR1025058 | ENSRNOT00000004698.7 | Tbx2 | ENSRNOG00000003517 | T-box 2 Source RGD Symbol Acc 1311014 |
| G03 | UPFR1105120 | ENSRNOT00000084018.1 | Tbx3 | ENSRNOG00000008706 | T-box 3 Source RGD Symbol Acc 735203 |
| G04 | UPFR1097812 | ENSRNOT00000027695.6 | Terf2 | ENSRNOG00000020435 | telomeric repeat binding factor 2 Source RGD Symbol Acc 1310881 |
| G05 | UPFR1102859 | ENSRNOT00000022683.4 | Tert | ENSRNOG00000025327 | telomerase reverse transcriptase Source RGD Symbol Acc 70494 |
| G06 | UPFR1103881 | ENSRNOT00000028051.4 | Tgfb1 | ENSRNOG00000020652 | transforming growth factor, beta 1 Source RGD Symbol Acc 69051 |
| G07 | UPFR1045420 | ENSRNOT00000054980.3 | Tgfb1i1 | ENSRNOG00000019965 | transforming growth factor beta 1 induced transcript 1 Source RGD Symbol Acc 620173 |
| G08 | UPFR1104745 | ENSRNOT00000083351.1 | Thbs1 | ENSRNOG00000045829 | thrombospondin 1 Source RGD Symbol Acc 1588455 |
| G09 | UPFR1095007 | ENSRNOT00000085115.1 | Tp53 | ENSRNOG00000010756 | tumor protein p53 Source RGD Symbol Acc 3889 |
| G10 | UPFR1103017 | ENSRNOT00000019025.8 | Tp53bp1 | ENSRNOG00000013837 | tumor protein p53 binding protein 1 Source RGD Symbol Acc 1308039 |
| G11 | UPFR1038411 | ENSRNOT00000014763.6 | Twist1 | ENSRNOG00000011101 | twist family bHLH transcription factor 1 Source RGD Symbol Acc 621455 |
| G12 | UPFR1091277 | ENSRNOT00000024430.5 | Vim | ENSRNOG00000018087 | vimentin Source RGD Symbol Acc 621646 |
| H01 | UPFR1132952 | ENSRNOT00000080216.1 | Actb | ENSRNOG00000034254 | actin, beta Source RGD Symbol Acc 628837 |
| H02 | UPFR1132953 | ENSRNOT00000023017.5 | B2m | ENSRNOG00000017123 | beta-2 microglobulin Source RGD Symbol Acc 2189 |
| H03 | UPFR1132959 | ENSRNOT00000065935.3 | Hprt1 | ENSRNOG00000048561 | hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826 |
| H04 | UPFR1018740 | ENSRNOT00000017468.2 | Ldha | ENSRNOG00000013009 | lactate dehydrogenase A Source RGD Symbol Acc 2996 |
| H05 | UPFR1132958 | ENSRNOT00000018820.5 | Rplp1 | ENSRNOG00000013874 | ribosomal protein lateral stalk subunit P1 Source RGD Symbol Acc 621774 |
| H06 | UPFR1126610 | UPL_RGDC | RGDC | UPL_RGDC | Rat 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.