

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

## Rat Autophagy

Cat. no. 249955 UPRN-084ZR

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](http://www.qiagen.com) for further details.

|   | 1      | 2       | 3      | 4        | 5         | 6       | 7       | 8                | 9        | 10      | 11                 | 12     |
|---|--------|---------|--------|----------|-----------|---------|---------|------------------|----------|---------|--------------------|--------|
| A | Akt1   | Ambra1  | App    | Arsa     | Atg12     | Atg16l1 | Atg16l2 | Atg3             | Atg4b    | Atg4c   | Atg5               | Atg7   |
| B | Atg9a  | Bad     | Bak1   | Bax      | Bcl2      | Bcl2l1  | Becn1   | Bid              | Bnip3    | Casp3   | Casp8              | Npc1   |
| C | Cdkn1b | Cdkn2a  | Cln3   | Ctsb     | Ctsd      | Ctsl    | Cxcr4   | Dapk1            | Dram2    | Elf2ak3 | Elf4g1             | Esr1   |
| D | Fadd   | Fas     | Gaa    | Gabarap  | Gabarapl2 | Hdac1   | Hdac6   | Hgs              | Hsp90aa1 | Htt     | Ifng               | Igf1   |
| E | Ins2   | Irgm    | Lamp1  | Map1lc3a | Map1lc3b  | Mapk14  | Mapk8   | Mapt             | Mtor     | Nfkb1   | AABR0700151<br>9.1 | Park7  |
| F | Pik3c3 | Pik3cg  | Pik3r4 | Pim2     | Pink1     | Prkaa1  | Psen1   | Pten             | Mxd3     | Rb1     | Rb1cc1             | Atg101 |
| G | Rgs19  | Rps6kb1 | Snca   | Sqstm1   | Tgfb1     | Tgm2    | Tm9sf1  | LOC1036943<br>80 | Tnfrsf10 | Tp53    | Ulk1               | Wipi1  |
| 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      | UPFR1083196 | ENSRNOT00000031164.3 | Akt1    | ENSRNOG0000028629  | AKT serine/threonine kinase 1 Source RGD Symbol Acc 2081                              |
| A02      | UPFR1027023 | ENSRNOT00000085614.1 | Ambra1  | ENSRNOG0000017422  | autophagy and beclin 1 regulator 1 Source RGD Symbol Acc 621330                       |
| A03      | UPFR1021296 | ENSRNOT00000044081.5 | App     | ENSRNOG0000006997  | amyloid beta precursor protein Source RGD Symbol Acc 2139                             |
| A04      | UPFR1079950 | ENSRNOT00000017783.6 | Arsa    | ENSRNOG0000012953  | arylsulfatase A Source RGD Symbol Acc 1310381                                         |
| A05      | UPFR1044325 | ENSRNOT00000000170.5 | Atg12   | ENSRNOG0000000157  | autophagy related 12 Source RGD Symbol Acc 1306306                                    |
| A06      | UPFR1043441 | ENSRNOT00000080482.1 | Atg16l1 | ENSRNOG0000017913  | autophagy related 16-like 1 Source RGD Symbol Acc 1310631                             |
| A07      | UPFR1072041 | ENSRNOT00000026286.5 | Atg16l2 | ENSRNOG0000019413  | autophagy related 16-like 2 Source RGD Symbol Acc 1311400                             |
| A08      | UPFR1110378 | ENSRNOT00000002906.6 | Atg3    | ENSRNOG0000002094  | autophagy related 3 Source RGD Symbol Acc 708464                                      |
| A09      | UPFR1119300 | ENSRNOT00000025529.7 | Atg4b   | ENSRNOG0000018403  | autophagy related 4B, cysteine peptidase Source RGD Symbol Acc 1309664                |
| A10      | UPFR1078503 | ENSRNOT00000011631.6 | Atg4c   | ENSRNOG0000008767  | autophagy related 4C, cysteine peptidase Source RGD Symbol Acc 1598323                |
| A11      | UPFR1058111 | ENSRNOT00000080283.1 | Atg5    | ENSRNOG0000000322  | autophagy related 5 Source RGD Symbol Acc 1359580                                     |
| A12      | UPFR1095782 | ENSRNOT00000067532.2 | Atg7    | ENSRNOG0000007486  | autophagy related 7 Source RGD Symbol Acc 1304817                                     |
| B01      | UPFR1105633 | ENSRNOT00000025740.5 | Atg9a   | ENSRNOG0000018975  | autophagy related 9A Source RGD Symbol Acc 1310450                                    |
| B02      | UPFR1109796 | ENSRNOT00000028712.5 | Bad     | ENSRNOG00000021147 | BCL2-associated agonist of cell death Source RGD Symbol Acc 620103                    |
| B03      | UPFR1013012 | ENSRNOT00000000576.5 | Bak1    | ENSRNOG0000000485  | BCL2-antagonist/killer 1 Source RGD Symbol Acc 621635                                 |
| B04      | UPFR1074536 | ENSRNOT00000028328.5 | Bax     | ENSRNOG0000020876  | BCL2 associated X, apoptosis regulator Source RGD Symbol Acc 2192                     |
| B05      | UPFR1082998 | ENSRNOT00000003768.2 | Bcl2    | ENSRNOG0000002791  | BCL2, apoptosis regulator Source RGD Symbol Acc 2199                                  |
| B06      | UPFR1047186 | ENSRNOT00000010762.7 | Bcl2l1  | ENSRNOG0000007946  | Bcl2-like 1 Source RGD Symbol Acc 2200                                                |
| B07      | UPFR1048185 | ENSRNOT00000027868.7 | Becn1   | ENSRNOG0000020513  | beclin 1 Source RGD Symbol Acc 620190                                                 |
| B08      | UPFR1018136 | ENSRNOT00000016776.2 | Bid     | ENSRNOG0000012439  | BH3 interacting domain death agonist Source RGD Symbol Acc 620160                     |
| B09      | UPFR1105806 | ENSRNOT00000023477.6 | Bnip3   | ENSRNOG0000017243  | BCL2 interacting protein 3 Source RGD Symbol Acc 620800                               |
| B10      | UPFR1091664 | ENSRNOT00000014095.5 | Casp3   | ENSRNOG0000010475  | caspase 3 Source RGD Symbol Acc 2275                                                  |
| B11      | UPFR1030636 | ENSRNOT00000016613.4 | Casp8   | ENSRNOG0000012331  | caspase 8 Source RGD Symbol Acc 620945                                                |
| B12      | UPFR1063124 | ENSRNOT00000016167.7 | Npc1    | ENSRNOG0000012016  | NPC intracellular cholesterol transporter 1 Source RGD Symbol Acc 628693              |
| C01      | UPFR1069360 | ENSRNOT00000049848.1 | Cdkn1b  | ENSRNOG0000007249  | cyclin-dependent kinase inhibitor 1B Source RGD Symbol Acc 69062                      |
| C02      | UPFR1104432 | ENSRNOT00000079251.1 | Cdkn2a  | ENSRNOG0000059837  | cyclin-dependent kinase inhibitor 2A Source RGD Symbol Acc 2323                       |
| C03      | UPFR1072893 | ENSRNOT00000025898.4 | Cln3    | ENSRNOG0000019103  | CLN3, battenin Source RGD Symbol Acc 1359537                                          |
| C04      | UPFR1121227 | ENSRNOT00000014177.5 | Ctsb    | ENSRNOG0000010331  | cathepsin B Source RGD Symbol Acc 621509                                              |
| C05      | UPFR1024358 | ENSRNOT00000027407.4 | Ctsd    | ENSRNOG0000020206  | cathepsin D Source RGD Symbol Acc 621511                                              |
| C06      | UPFR1035779 | ENSRNOT00000028732.7 | Ctss    | ENSRNOG0000021157  | cathepsin S Source RGD Symbol Acc 621513                                              |
| C07      | UPFR1030244 | ENSRNOT00000005143.6 | Cxcr4   | ENSRNOG0000003866  | C-X-C motif chemokine receptor 4 Source RGD Symbol Acc 620465                         |
| C08      | UPFR1056311 | ENSRNOT00000066950.2 | Dapk1   | ENSRNOG0000018198  | death associated protein kinase 1 Source RGD Symbol Acc 1311629                       |
| C09      | UPFR1091907 | ENSRNOT00000023903.7 | Dram2   | ENSRNOG0000017744  | DNA-damage regulated autophagy modulator 2 Source RGD Symbol Acc 1564099              |
| C10      | UPFR1090219 | ENSRNOT00000008451.5 | Eif2ak3 | ENSRNOG0000006069  | eukaryotic translation initiation factor 2 alpha kinase 3 Source RGD Symbol Acc 70884 |
|          |             | ENSRNOT000000        |         | ENSRNOG00          | eukaryotic translation initiation factor 4 gamma, 1 Source RGD Symbol Acc             |

| Position | Assay       | Name                 | Symbol         | Ensembl ID        | Description                                                                                           |
|----------|-------------|----------------------|----------------|-------------------|-------------------------------------------------------------------------------------------------------|
| C11      | UPFR1083505 | 041777.6             | Eif4g1         | 000001738         | 1306144                                                                                               |
| C12      | UPFR1099141 | ENSRNOT00000026350.7 | Esr1           | ENSRNOG0000019358 | estrogen receptor 1 Source RGD Symbol Acc 2581                                                        |
| D01      | UPFR1101946 | ENSRNOT00000075089.3 | Fadd           | ENSRNOG0000047035 | Fas associated via death domain Source RGD Symbol Acc 628700                                          |
| D02      | UPFR1075141 | ENSRNOT00000025928.5 | Fas            | ENSRNOG0000019142 | Fas cell surface death receptor Source RGD Symbol Acc 619831                                          |
| D03      | UPFR1022261 | ENSRNOT00000075796.2 | Gaa            | ENSRNOG0000047656 | glucosidase, alpha, acid Source RGD Symbol Acc 735227                                                 |
| D04      | UPFR1042418 | ENSRNOT00000023724.6 | Gabarap        | ENSRNOG0000017417 | GABA type A receptor-associated protein Source RGD Symbol Acc 61911                                   |
| D05      | UPFR1098888 | ENSRNOT00000048998.3 | Gabarapl2      | ENSRNOG0000019425 | GABA type A receptor associated protein like 2 Source RGD Symbol Acc 620510                           |
| D06      | UPFR1113247 | ENSRNOT00000012854.6 | Hdac1          | ENSRNOG0000009568 | histone deacetylase 1 Source RGD Symbol Acc 1309799                                                   |
| D07      | UPFR1060810 | ENSRNOT00000009295.6 | Hdac6          | ENSRNOG0000048738 | histone deacetylase 6 Source RGD Symbol Acc 619981                                                    |
| D08      | UPFR1066634 | ENSRNOT00000054966.4 | Hgs            | ENSRNOG0000036696 | hepatocyte growth factor-regulated tyrosine kinase substrate Source RGD Symbol Acc 69225              |
| D09      | UPFR1014170 | ENSRNOT00000086310.1 | Hsp90aa1       | ENSRNOG0000059714 | heat shock protein 90 alpha family class A member 1 Source RGD Symbol Acc 631409                      |
| D10      | UPFR1039252 | ENSRNOT00000058166.3 | Htt            | ENSRNOG0000011073 | huntingtin Source RGD Symbol Acc 68337                                                                |
| D11      | UPFR1084134 | ENSRNOT00000009919.2 | Ifng           | ENSRNOG0000007468 | interferon gamma Source RGD Symbol Acc 2866                                                           |
| D12      | UPFR1050099 | ENSRNOT00000038780.6 | Igf1           | ENSRNOG0000004517 | insulin-like growth factor 1 Source RGD Symbol Acc 2868                                               |
| E01      | UPFR1114751 | ENSRNOT00000027656.3 | Ins2           | ENSRNOG0000020405 | insulin 2 Source RGD Symbol Acc 2916                                                                  |
| E02      | UPFR1059248 | ENSRNOT00000045545.3 | Irgm           | ENSRNOG0000031138 | immunity-related GTPase M Source RGD Symbol Acc 1305163                                               |
| E03      | UPFR1013901 | ENSRNOT00000026580.6 | Lamp1          | ENSRNOG0000019629 | lysosomal-associated membrane protein 1 Source RGD Symbol Acc 2989                                    |
| E04      | UPFR1091462 | ENSRNOT00000035060.4 | Map1lc3a       | ENSRNOG0000025443 | microtubule-associated protein 1 light chain 3 alpha Source RGD Symbol Acc 735183                     |
| E05      | UPFR1036103 | ENSRNOT00000079382.1 | Map1lc3b       | ENSRNOG0000017905 | microtubule-associated protein 1 light chain 3 beta Source RGD Symbol Acc 621315                      |
| E06      | UPFR1036984 | ENSRNOT00000000617.8 | Mapk14         | ENSRNOG0000000513 | mitogen activated protein kinase 14 Source RGD Symbol Acc 70496                                       |
| E07      | UPFR1048766 | ENSRNOT00000065216.3 | Mapk8          | ENSRNOG0000020155 | mitogen-activated protein kinase 8 Source RGD Symbol Acc 621506                                       |
| E08      | UPFR1041157 | ENSRNOT00000045127.6 | Mapt           | ENSRNOG0000005133 | microtubule-associated protein tau Source RGD Symbol Acc 69329                                        |
| E09      | UPFR1112219 | ENSRNOT00000080751.1 | Mtor           | ENSRNOG0000009615 | mechanistic target of rapamycin kinase Source RGD Symbol Acc 68371                                    |
| E10      | UPFR1116688 | ENSRNOT00000036838.4 | Nfkb1          | ENSRNOG0000023258 | nuclear factor kappa B subunit 1 Source RGD Symbol Acc 70498                                          |
| E11      | UPFR1080845 | ENSRNOT00000086127.1 | AABR07001519.1 | ENSRNOG0000055547 |                                                                                                       |
| E12      | UPFR1045325 | ENSRNOT00000091206.1 | Park7          | ENSRNOG0000018289 | Parkinsonism associated deglycase Source RGD Symbol Acc 621808                                        |
| F01      | UPFR1079473 | ENSRNOT00000066816.2 | Pik3c3         | ENSRNOG0000017840 | phosphatidylinositol 3-kinase, catalytic subunit type 3 Source RGD Symbol Acc 620899                  |
| F02      | UPFR1091290 | ENSRNOT00000012487.5 | Pik3cg         | ENSRNOG0000009385 | phosphatidylinositol-4,5-bisphosphate 3-kinase, catalytic subunit gamma Source RGD Symbol Acc 1306468 |
| F03      | UPFR1110662 | ENSRNOT00000090707.1 | Pik3r4         | ENSRNOG0000013669 | phosphoinositide-3-kinase, regulatory subunit 4 Source RGD Symbol Acc 1311809                         |
| F04      | UPFR1100332 | ENSRNOT00000011207.7 | Pim2           | ENSRNOG0000008177 | Pim-2 proto-oncogene, serine/threonine kinase Source RGD Symbol Acc 1560759                           |
| F05      | UPFR1021822 | ENSRNOT00000083474.1 | Pink1          | ENSRNOG0000015385 | PTEN induced putative kinase 1 Source RGD Symbol Acc 1305769                                          |
| F06      | UPFR1073875 | ENSRNOT00000017626.5 | Prkaa1         | ENSRNOG0000012799 | protein kinase AMP-activated catalytic subunit alpha 1 Source RGD Symbol Acc 3387                     |
| F07      | UPFR1095499 | ENSRNOT00000012495.7 | Psen1          | ENSRNOG0000009110 | presenilin 1 Source RGD Symbol Acc 3425                                                               |
| F08      | UPFR1043890 | ENSRNOT00000028143.3 | Pten           | ENSRNOG0000020723 | phosphatase and tensin homolog Source RGD Symbol Acc 61995                                            |
| F09      | UPFR1106206 | ENSRNOT00000076436.1 | Mxd3           | ENSRNOG0000016539 | Max dimerization protein 3 Source RGD Symbol Acc 628624                                               |
| F10      | UPFR1039430 | ENSRNOT00000021752.5 | Rb1            | ENSRNOG0000016029 | RB transcriptional corepressor 1 Source RGD Symbol Acc 3540                                           |

| Position | Assay       | Name                 | Symbol       | Ensembl ID         | Description                                                                    |
|----------|-------------|----------------------|--------------|--------------------|--------------------------------------------------------------------------------|
| F11      | UPFR1084799 | ENSRNOT00000061884.2 | Rb1cc1       | ENSRNOG0000006833  | RB1-inducible coiled-coil 1 Source RGD Symbol Acc 1309346                      |
| F12      | UPFR1018869 | ENSRNOT00000087415.1 | Atg101       | ENSRNOG0000007756  | autophagy related 101 Source RGD Symbol Acc 1359310                            |
| G01      | UPFR1039901 | ENSRNOT00000022451.4 | Rgs19        | ENSRNOG0000016547  | regulator of G-protein signaling 19 Source RGD Symbol Acc 629471               |
| G02      | UPFR1107808 | ENSRNOT00000005226.4 | Rps6kb1      | ENSRNOG0000003919  | ribosomal protein S6 kinase B1 Source RGD Symbol Acc 620683                    |
| G03      | UPFR1068205 | ENSRNOT00000039247.4 | Snca         | ENSRNOG0000008656  | synuclein alpha Source RGD Symbol Acc 3729                                     |
| G04      | UPFR1112424 | ENSRNOT00000059255.5 | Sqstm1       | ENSRNOG0000003147  | sequestosome 1 Source RGD Symbol Acc 69287                                     |
| G05      | UPFR1103881 | ENSRNOT00000028051.4 | Tgfb1        | ENSRNOG0000020652  | transforming growth factor, beta 1 Source RGD Symbol Acc 69051                 |
| G06      | UPFR1068061 | ENSRNOT00000018328.5 | Tgm2         | ENSRNOG0000012956  | transglutaminase 2 Source RGD Symbol Acc 621081                                |
| G07      | UPFR1097147 | ENSRNOT00000026734.6 | Tm9sf1       | ENSRNOG0000019710  | transmembrane 9 superfamily member 1 Source RGD Symbol Acc 1307085             |
| G08      | UPFR1098022 | ENSRNOT00000079677.1 | LOC103694380 | ENSRNOG0000055156  | tumor necrosis factor-like Source RGD Symbol Acc 9404643                       |
| G09      | UPFR1107113 | ENSRNOT00000017758.5 | Tnfsf10      | ENSRNOG0000013269  | TNF superfamily member 10 Source RGD Symbol Acc 628734                         |
| G10      | UPFR1095007 | ENSRNOT00000085115.1 | Tp53         | ENSRNOG0000010756  | tumor protein p53 Source RGD Symbol Acc 3889                                   |
| G11      | UPFR1015373 | ENSRNOT00000056790.3 | Ulk1         | ENSRNOG0000037505  | unc-51 like autophagy activating kinase 1 Source RGD Symbol Acc 1589743        |
| G12      | UPFR1040874 | ENSRNOT00000005172.7 | Wipi1        | ENSRNOG0000003827  | WD repeat domain, phosphoinositide interacting 1 Source RGD Symbol Acc 1307754 |
| H01      | UPFR1132952 | ENSRNOT00000080216.1 | Actb         | ENSRNOG00000034254 | actin, beta Source RGD Symbol Acc 628837                                       |
| H02      | UPFR1132953 | ENSRNOT00000023017.5 | B2m          | ENSRNOG0000017123  | beta-2 microglobulin Source RGD Symbol Acc 2189                                |
| H03      | UPFR1132959 | ENSRNOT00000065935.3 | Hprt1        | ENSRNOG0000048561  | hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826            |
| H04      | UPFR1018740 | ENSRNOT00000017468.2 | Ldha         | ENSRNOG0000013009  | lactate dehydrogenase A Source RGD Symbol Acc 2996                             |
| H05      | UPFR1132958 | ENSRNOT00000018820.5 | Rplp1        | ENSRNOG0000013874  | 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 $\mu$ l reactions: 20 $\mu$ l 8x gDNA Removal Mix, 10 $\mu$ l Reverse Transcription Enzyme, 40 $\mu$ l Reverse Transcription Mix (containing RT primers), 20 $\mu$ l Internal Control RNA, 1.9 ml RNase-Free Water                         | 205410   |
| QuantiNova Probe RT-PCR Kit (100)*         | For 100 x 20 $\mu$ l reactions: 1 ml QuantiNova Probe RT-PCR Master Mix, 20 $\mu$ l QuantiNova Probe RT Mix, 20 $\mu$ l Internal Control RNA, 500 $\mu$ l Yellow Template Dilution Buffer, 250 $\mu$ l ROX Reference Dye, 1.9 $\mu$ l RNase-Free Water | 208352   |
| QuantiNova Probe PCR Kit (100)*            | For 100 x 20 $\mu$ l reactions: 1 ml 2x QuantiNova Probe PCR Master Mix, 500 $\mu$ l QuantiNova Yellow Template Dilution Buffer, 250 $\mu$ 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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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