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

# Rat VEGF Signaling

## Cat. no. 249955 UPRN-091ZR

## 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 | Akt1 | Akt2 | Akt3 | Arnt | Bad | Casp9 | Cav1 | Cdc42 | Vegfd | Flt1 | Flt4 | Grb2 |
| B | Hif1a | Hras | Hsp90aa1 | Hspb1 | Kdr | Kras | Map2k1 | Map2k2 | Mapk1 | Mapk11 | Mapk12 | Mapk13 |
| C | Mapk14 | Mapk3 | Mapkapk2 | Mapkapk3 | Nfat5 | Nfatc2 | Nfatc3 | Nfatc4 | Nos3 | Nras | Nrp1 | Nrp2 |
| D | Pdgfc | Pgf | Pik3ca | Pik3cb | Pik3cd | Pik3cg | Pik3r1 | Pik3r2 | Pik3r3 | Pik3r5 | Pla2g10 | Pla2g12a |
| E | Pla2g12b | Pla2g1b | Pla2g2a | Pla2g2d | Pla2g2e | Pla2g2f | Pla2g3 | Pla2g4a | Pla2g4b | Pla2g5 | Pla2g6 | Plcg1 |
| F | Plcg2 | Ppp3ca | Ppp3cb | Ppp3cc | Ppp3r1 | Ppp3r2 | Prkca | Prkcb | Prkcg | Ptgs2 | Ptk2 | Pxn |
| G | Rac1 | Rac2 | Raf1 | Nfatc1 | Sh2d2a | Shc2 | Sphk1 | Sphk2 | Src | Vegfa | Vegfb | Vegfc |
| 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 | ENSRNOG00000028629 | AKT serine/threonine kinase 1 Source RGD Symbol Acc 2081 |
| A02 | UPFR1088137 | ENSRNOT00000025303.3 | Akt2 | ENSRNOG00000018677 | AKT serine/threonine kinase 2 Source RGD Symbol Acc 2082 |
| A03 | UPFR1105050 | ENSRNOT00000085648.1 | Akt3 | ENSRNOG00000021497 | AKT serine/threonine kinase 3 Source RGD Symbol Acc 62390 |
| A04 | UPFR1041304 | ENSRNOT00000044738.4 | Arnt | ENSRNOG00000031174 | aryl hydrocarbon receptor nuclear translocator Source RGD Symbol Acc 2153 |
| A05 | UPFR1109796 | ENSRNOT00000028712.5 | Bad | ENSRNOG00000021147 | BCL2-associated agonist of cell death Source RGD Symbol Acc 620103 |
| A06 | UPFR1054782 | ENSRNOT00000085378.1 | Casp9 | ENSRNOG00000012944 | caspase 9 Source RGD Symbol Acc 61867 |
| A07 | UPFR1012931 | ENSRNOT00000078250.1 | Cav1 | ENSRNOG00000056836 | caveolin 1 Source RGD Symbol Acc 2280 |
| A08 | UPFR1103160 | ENSRNOT00000018118.5 | Cdc42 | ENSRNOG00000013536 | cell division cycle 42 Source RGD Symbol Acc 71043 |
| A09 | UPFR1115126 | ENSRNOT00000068601.2 | Vegfd | ENSRNOG00000003587 | vascular endothelial growth factor D Source RGD Symbol Acc 620695 |
| A10 | UPFR1070633 | ENSRNOT00000001248.3 | Flt1 | ENSRNOG00000000940 | FMS-related tyrosine kinase 1 Source RGD Symbol Acc 2621 |
| A11 | UPFR1103317 | ENSRNOT00000003519.5 | Flt4 | ENSRNOG00000002511 | fms-related tyrosine kinase 4 Source RGD Symbol Acc 621737 |
| A12 | UPFR1087543 | ENSRNOT00000005347.5 | Grb2 | ENSRNOG00000003990 | growth factor receptor bound protein 2 Source RGD Symbol Acc 619758 |
| B01 | UPFR1061095 | ENSRNOT00000049725.3 | Hif1a | ENSRNOG00000008292 | hypoxia inducible factor 1 subunit alpha Source RGD Symbol Acc 61928 |
| B02 | UPFR1076419 | ENSRNOT00000022363.6 | Hras | ENSRNOG00000016611 | HRas proto-oncogene, GTPase Source RGD Symbol Acc 2827 |
| B03 | UPFR1014170 | ENSRNOT00000086310.1 | Hsp90aa1 | ENSRNOG00000059714 | heat shock protein 90 alpha family class A member 1 Source RGD Symbol Acc 631409 |
| B04 | UPFR1030516 | ENSRNOT00000031555.5 | Hspb1 | ENSRNOG00000023546 | heat shock protein family B (small) member 1 Source RGD Symbol Acc 61306 |
| B05 | UPFR1041145 | ENSRNOT00000085089.1 | Kdr | ENSRNOG00000046829 | kinase insert domain receptor Source RGD Symbol Acc 2965 |
| B06 | UPFR1088461 | ENSRNOT00000012588.4 | Kras | ENSRNOG00000009338 | KRAS proto-oncogene, GTPase Source RGD Symbol Acc 2981 |
| B07 | UPFR1053192 | ENSRNOT00000013933.6 | Map2k1 | ENSRNOG00000010176 | mitogen activated protein kinase kinase 1 Source RGD Symbol Acc 70495 |
| B08 | UPFR1041466 | ENSRNOT00000027272.5 | Map2k2 | ENSRNOG00000020005 | mitogen activated protein kinase kinase 2 Source RGD Symbol Acc 61888 |
| B09 | UPFR1055882 | ENSRNOT00000002533.7 | Mapk1 | ENSRNOG00000001849 | mitogen activated protein kinase 1 Source RGD Symbol Acc 70500 |
| B10 | UPFR1074404 | ENSRNOT00000009325.6 | Mapk11 | ENSRNOG00000006984 | mitogen-activated protein kinase 11 Source RGD Symbol Acc 1309340 |
| B11 | UPFR1079036 | ENSRNOT00000044376.4 | Mapk12 | ENSRNOG00000031233 | mitogen-activated protein kinase 12 Source RGD Symbol Acc 70975 |
| B12 | UPFR1029556 | ENSRNOT00000000621.6 | Mapk13 | ENSRNOG00000000515 | mitogen activated protein kinase 13 Source RGD Symbol Acc 3045 |
| C01 | UPFR1036984 | ENSRNOT00000000617.8 | Mapk14 | ENSRNOG00000000513 | mitogen activated protein kinase 14 Source RGD Symbol Acc 70496 |
| C02 | UPFR1049954 | ENSRNOT00000087625.1 | Mapk3 | ENSRNOG00000053583 | mitogen activated protein kinase 3 Source RGD Symbol Acc 3046 |
| C03 | UPFR1112750 | ENSRNOT00000061070.4 | Mapkapk2 | ENSRNOG00000004726 | mitogen-activated protein kinase-activated protein kinase 2 Source RGD Symbol Acc 631362 |
| C04 | UPFR1060799 | ENSRNOT00000020065.5 | Mapkapk3 | ENSRNOG00000014832 | mitogen-activated protein kinase-activated protein kinase 3 Source RGD Symbol Acc 1304980 |
| C05 | UPFR1019376 | ENSRNOT00000017005.5 | Nfat5 | ENSRNOG00000011879 | nuclear factor of activated T-cells 5 Source RGD Symbol Acc 1309142 |
| C06 | UPFR1082530 | ENSRNOT00000065615.1 | Nfatc2 | ENSRNOG00000012175 | nuclear factor of activated T-cells 2 Source RGD Symbol Acc 1307690 |
| C07 | UPFR1047494 | ENSRNOT00000087491.1 | Nfatc3 | ENSRNOG00000054264 | nuclear factor of activated T-cells 3 Source RGD Symbol Acc 1308692 |
| C08 | UPFR1030738 | ENSRNOT00000027789.5 | Nfatc4 | ENSRNOG00000020482 | nuclear factor of activated T-cells 4 Source RGD Symbol Acc 1310749 |
| C09 | UPFR1032783 | ENSRNOT00000013058.4 | Nos3 | ENSRNOG00000009348 | nitric oxide synthase 3 Source RGD Symbol Acc 3186 |
| C10 | UPFR1038224 | ENSRNOT00000039572.3 | Nras | ENSRNOG00000023079 | NRAS proto-oncogene, GTPase Source RGD Symbol Acc 3205 |
| | | ENSRNOT00000 | | ENSRNOG00 | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| C11 | UPFR1025300 | 080465.1 | Nrp1 | 000010744 | neuropilin 1 Source RGD Symbol Acc 621588 |
| C12 | UPFR1067456 | ENSRNOT00000 042562.3 | Nrp2 | ENSRNOG00 000031232 | neuropilin 2 Source RGD Symbol Acc 621442 |
| D01 | UPFR1031722 | ENSRNOT00000 015081.4 | Pdgfc | ENSRNOG00 000010695 | platelet derived growth factor C Source RGD Symbol Acc 68410 |
| D02 | UPFR1118244 | ENSRNOT00000 007790.5 | Pgf | ENSRNOG00 000005650 | placental growth factor Source RGD Symbol Acc 619850 |
| D03 | UPFR1035210 | ENSRNOT00000 083720.1 | Pik3ca | ENSRNOG00 000056371 | phosphatidylinositol-4,5-bisphosphate 3-kinase, catalytic subunit alpha Source RGD Symbol Acc 620916 |
| D04 | UPFR1105369 | ENSRNOT00000 022179.4 | Pik3cb | ENSRNOG00 000016384 | phosphatidylinositol-4,5-bisphosphate 3-kinase, catalytic subunit beta Source RGD Symbol Acc 620917 |
| D05 | UPFR1091879 | ENSRNOT00000 066179.2 | Pik3cd | ENSRNOG00 000016846 | phosphatidylinositol-4,5-bisphosphate 3-kinase, catalytic subunit delta Source RGD Symbol Acc 1310990 |
| D06 | UPFR1091290 | ENSRNOT00000 012487.5 | Pik3cg | ENSRNOG00 000009385 | phosphatidylinositol-4,5-bisphosphate 3-kinase, catalytic subunit gamma Source RGD Symbol Acc 1306468 |
| D07 | UPFR1035231 | ENSRNOT00000 075057.1 | Pik3r1 | ENSRNOG00 000018903 | phosphoinositide-3-kinase regulatory subunit 1 Source RGD Symbol Acc 3329 |
| D08 | UPFR1126563 | ENSRNOT00000 026210.5 | Pik3r2 | ENSRNOG00 000019228 | phosphoinositide-3-kinase regulatory subunit 2 Source RGD Symbol Acc 68341 |
| D09 | UPFR1082681 | ENSRNOT00000 000157.3 | Pik3r3 | ENSRNOG00 000000145 | phosphoinositide-3-kinase regulatory subunit 3 Source RGD Symbol Acc 621042 |
| D10 | UPFR1048935 | ENSRNOT00000 032785.5 | Pik3r5 | ENSRNOG00 000023428 | phosphoinositide-3-kinase, regulatory subunit 5 Source RGD Symbol Acc 1563261 |
| D11 | UPFR1073069 | ENSRNOT00000 004237.2 | Pla2g10 | ENSRNOG00 000003164 | phospholipase A2, group X Source RGD Symbol Acc 61935 |
| D12 | UPFR1016426 | ENSRNOT00000 080183.1 | Pla2g12a | ENSRNOG00 000057470 | phospholipase A2, group XIIA Source RGD Symbol Acc 1304662 |
| E01 | UPFR1018139 | ENSRNOT00000 074524.2 | Pla2g12b | ENSRNOG00 000046619 | phospholipase A2, group XIIB Source RGD Symbol Acc 1588484 |
| E02 | UPFR1117063 | ENSRNOT00000 001525.3 | Pla2g1b | ENSRNOG00 000001153 | phospholipase A2 group IB Source RGD Symbol Acc 61949 |
| E03 | UPFR1021409 | ENSRNOT00000 022827.4 | Pla2g2a | ENSRNOG00 000016945 | phospholipase A2 group IIA Source RGD Symbol Acc 620857 |
| E04 | UPFR1047545 | ENSRNOT00000 022579.5 | Pla2g2d | ENSRNOG00 000016826 | phospholipase A2, group IID Source RGD Symbol Acc 1309862 |
| E05 | UPFR1041583 | ENSRNOT00000 022847.5 | Pla2g2e | ENSRNOG00 000017024 | phospholipase A2, group IIE Source RGD Symbol Acc 1309611 |
| E06 | UPFR1090932 | ENSRNOT00000 022559.5 | Pla2g2f | ENSRNOG00 000016798 | phospholipase A2, group IIF Source RGD Symbol Acc 1597305 |
| E07 | UPFR1075394 | ENSRNOT00000 029848.3 | Pla2g3 | ENSRNOG00 000025121 | phospholipase A2, group III Source RGD Symbol Acc 1305323 |
| E08 | UPFR1116754 | ENSRNOT00000 090693.1 | Pla2g4a | ENSRNOG00 000002657 | phospholipase A2 group IVA Source RGD Symbol Acc 67366 |
| E09 | UPFR1119990 | ENSRNOT00000 066685.2 | Pla2g4b | ENSRNOG00 000007447 | phospholipase A2 group IVB Source RGD Symbol Acc 1308658 |
| E10 | UPFR1033443 | ENSRNOT00000 022716.5 | Pla2g5 | ENSRNOG00 000016838 | phospholipase A2, group V Source RGD Symbol Acc 62051 |
| E11 | UPFR1077139 | ENSRNOT00000 090565.1 | Pla2g6 | ENSRNOG00 000012295 | phospholipase A2 group VI Source RGD Symbol Acc 628867 |
| E12 | UPFR1035470 | ENSRNOT00000 078909.1 | Plcg1 | ENSRNOG00 000051490 | phospholipase C, gamma 1 Source RGD Symbol Acc 3347 |
| F01 | UPFR1066410 | ENSRNOT00000 090165.1 | Plcg2 | ENSRNOG00 000051986 | phospholipase C, gamma 2 Source RGD Symbol Acc 3348 |
| F02 | UPFR1110596 | ENSRNOT00000 047975.5 | Ppp3ca | ENSRNOG00 000009882 | protein phosphatase 3 catalytic subunit alpha Source RGD Symbol Acc 3382 |
| F03 | UPFR1044647 | ENSRNOT00000 082236.1 | Ppp3cb | ENSRNOG00 000054782 | protein phosphatase 3 catalytic subunit beta Source RGD Symbol Acc 3383 |
| F04 | UPFR1112347 | ENSRNOT00000 082505.1 | Ppp3cc | ENSRNOG00 000009745 | protein phosphatase 3 catalytic subunit gamma Source RGD Symbol Acc 621616 |
| F05 | UPFR1044255 | ENSRNOT00000 031275.6 | Ppp3r1 | ENSRNOG00 000043210 | protein phosphatase 3, regulatory subunit B, alpha Source RGD Symbol Acc 69230 |
| F06 | UPFR1121613 | ENSRNOT00000 007290.2 | Ppp3r2 | ENSRNOG00 000005368 | protein phosphatase 3, regulatory subunit B, beta Source RGD Symbol Acc 69232 |
| F07 | UPFR1034906 | ENSRNOT00000 004699.8 | Prkca | ENSRNOG00 000003491 | protein kinase C, alpha Source RGD Symbol Acc 3395 |
| F08 | UPFR1083743 | ENSRNOT00000 016418.6 | Prkcb | ENSRNOG00 000012061 | protein kinase C, beta Source RGD Symbol Acc 3396 |
| F09 | UPFR1032334 | ENSRNOT00000 080032.1 | Prkcg | ENSRNOG00 000054371 | protein kinase C, gamma Source RGD Symbol Acc 3397 |
| F10 | UPFR1035449 | ENSRNOT00000 003567.4 | Ptgs2 | ENSRNOG00 000002525 | prostaglandin-endoperoxide synthase 2 Source RGD Symbol Acc 620349 |
| | | | | | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| F11 | UPFR1115915 | ENSRNOT00000011219.6 | Ptk2 | ENSRNOG00000007916 | protein tyrosine kinase 2 Source RGD Symbol Acc 3443 |
| F12 | UPFR1053103 | ENSRNOT00000081134.1 | Pxn | ENSRNOG00000001149 | paxillin Source RGD Symbol Acc 1305759 |
| G01 | UPFR1019271 | ENSRNOT00000001417.5 | Rac1 | ENSRNOG00000001068 | Rac family small GTPase 1 Source RGD Symbol Acc 619755 |
| G02 | UPFR1037602 | ENSRNOT00000009994.5 | Rac2 | ENSRNOG00000007350 | Rac family small GTPase 2 Source RGD Symbol Acc 1307568 |
| G03 | UPFR1087799 | ENSRNOT00000013831.6 | Raf1 | ENSRNOG00000010153 | Raf-1 proto-oncogene, serine/threonine kinase Source RGD Symbol Acc 3531 |
| G04 | UPFR1086713 | ENSRNOT00000058382.4 | Nfatc1 | ENSRNOG00000017146 | nuclear factor of activated T-cells 1 Source RGD Symbol Acc 2319357 |
| G05 | UPFR1018728 | ENSRNOT00000017798.7 | Sh2d2a | ENSRNOG00000013294 | SH2 domain containing 2A Source RGD Symbol Acc 1303076 |
| G06 | UPFR1020994 | ENSRNOT00000010714.5 | Shc2 | ENSRNOG00000008030 | SHC adaptor protein 2 Source RGD Symbol Acc 1307137 |
| G07 | UPFR1081482 | ENSRNOT00000032163.5 | Sphk1 | ENSRNOG00000010626 | sphingosine kinase 1 Source RGD Symbol Acc 620048 |
| G08 | UPFR1019068 | ENSRNOT00000028549.5 | Sphk2 | ENSRNOG00000021032 | sphingosine kinase 2 Source RGD Symbol Acc 1307757 |
| G09 | UPFR1050158 | ENSRNOT00000012739.4 | Src | ENSRNOG00000009495 | SRC proto-oncogene, non-receptor tyrosine kinase Source RGD Symbol Acc 620795 |
| G10 | UPFR1117908 | ENSRNOT00000026559.5 | Vegfa | ENSRNOG00000019598 | vascular endothelial growth factor A Source RGD Symbol Acc 619991 |
| G11 | UPFR1063692 | ENSRNOT00000050891.3 | Vegfb | ENSRNOG00000021156 | vascular endothelial growth factor B Source RGD Symbol Acc 619799 |
| G12 | UPFR1108264 | ENSRNOT00000015529.4 | Vegfc | ENSRNOG00000011416 | vascular endothelial growth factor C Source RGD Symbol Acc 619800 |
| 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.