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

# Mouse Dopamine & Serotonin Pathway

## Cat. no. 249955 UPMM-158ZR

## 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 | Adcy1 | Adcy2 | Adcy3 | Adcy5 | Adrb1 | Adrb2 | Grk2 | Grk3 | Akt1 | Akt2 | Akt3 | Alox12 |
| B | App | Arrb1 | Arrb2 | Bdnf | Cacna1a | Casp3 | Cdk5 | Comt | Creb1 | Cyp2d22 | Dbh | Ddc |
| C | Drd1 | Drd2 | Drd3 | Drd4 | Drd5 | Dusp1 | Ephb1 | Fos | Gdnf | Gfap | Grk4 | Grk5 |
| D | Grk6 | Gsk3a | Gsk3b | Htr1a | Htr1b | Htr1d | Htr1f | Htr2a | Htr2b | Htr2c | Htr3a | Htr3b |
| E | Htr4 | Htr5a | Htr6 | Htr7 | Itpr1 | Maoa | Maob | Mapk1 | Nr4a1 | Nr4a3 | Pde10a | Pde4a |
| F | Pde4b | Pde4c | Pde4d | Pdyn | Pik3ca | Pik3cg | Pla2g5 | Plcb1 | Plcb2 | Plcb3 | Ppp1r1b | Prkaca |
| G | Ptgs2 | Slc18a1 | Slc18a2 | Slc6a3 | Slc6a4 | Snca | Sncaip | Syn2 | Tdo2 | Th | Tph1 | Tph2 |
| H | Actb | B2m | Gapdh | Gusb | Hsp90ab1 | MGDC | QIC | QIC | QIC | PPC | PPC | PPC |

# Gene table: QuantiNova LNA Probe PCR Focus Panel

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| A01 | UPFM0781353 | ENSMUST00000020706.4 | Adcy1 | ENSMUSG00000020431 | adenylate cyclase 1 Source MGI Symbol Acc MGI 99677 |
| A02 | UPFM0812343 | ENSMUST00000022013.7 | Adcy2 | ENSMUSG00000021536 | adenylate cyclase 2 Source MGI Symbol Acc MGI 99676 |
| A03 | UPFM0880338 | ENSMUST00000127756.7 | Adcy3 | ENSMUSG00000020654 | adenylate cyclase 3 Source MGI Symbol Acc MGI 99675 |
| A04 | UPFM0906503 | ENSMUST00000114913.2 | Adcy5 | ENSMUSG00000022840 | adenylate cyclase 5 Source MGI Symbol Acc MGI 99673 |
| A05 | UPFM0720171 | ENSMUST00000038949.5 | Adrb1 | ENSMUSG00000035283 | adrenergic receptor, beta 1 Source MGI Symbol Acc MGI 87937 |
| A06 | UPFM0866443 | ENSMUST00000053640.4 | Adrb2 | ENSMUSG00000045730 | adrenergic receptor, beta 2 Source MGI Symbol Acc MGI 87938 |
| A07 | UPFM0782235 | ENSMUST00000168594.7 | Grk2 | ENSMUSG00000024858 | G protein-coupled receptor kinase 2 Source MGI Symbol Acc MGI 87940 |
| A08 | UPFM0706902 | ENSMUST00000065167.8 | Grk3 | ENSMUSG00000042249 | G protein-coupled receptor kinase 3 Source MGI Symbol Acc MGI 87941 |
| A09 | UPFM0827860 | ENSMUST00000139388.2 | Akt1 | ENSMUSG00000001729 | thymoma viral proto-oncogene 1 Source MGI Symbol Acc MGI 87986 |
| A10 | UPFM0744642 | ENSMUST00000138459.7 | Akt2 | ENSMUSG00000004056 | thymoma viral proto-oncogene 2 Source MGI Symbol Acc MGI 104874 |
| A11 | UPFM0852369 | ENSMUST00000111160.8 | Akt3 | ENSMUSG00000019699 | thymoma viral proto-oncogene 3 Source MGI Symbol Acc MGI 1345147 |
| A12 | UPFM1007863 | ENSMUST00000108574.2 | Alox12 | ENSMUSG00000000320 | arachidonate 12-lipoxygenase Source MGI Symbol Acc MGI 87998 |
| B01 | UPFM0815169 | ENSMUST00000227723.1 | App | ENSMUSG00000022892 | amyloid beta (A4) precursor protein Source MGI Symbol Acc MGI 88059 |
| B02 | UPFM0678923 | ENSMUST00000159642.1 | Arrb1 | ENSMUSG00000018909 | arrestin, beta 1 Source MGI Symbol Acc MGI 99473 |
| B03 | UPFM0672806 | ENSMUST00000084954.12 | Arrb2 | ENSMUSG00000060216 | arrestin, beta 2 Source MGI Symbol Acc MGI 99474 |
| B04 | UPFM0858155 | ENSMUST00000111049.8 | Bdnf | ENSMUSG00000048482 | brain derived neurotrophic factor Source MGI Symbol Acc MGI 88145 |
| B05 | UPFM0658253 | ENSMUST00000144879.7 | Cacna1a | ENSMUSG00000034656 | calcium channel, voltage-dependent, P/Q type, alpha 1A subunit Source MGI Symbol Acc MGI 109482 |
| B06 | UPFM0728951 | ENSMUST00000210534.1 | Casp3 | ENSMUSG00000031628 | caspase 3 Source MGI Symbol Acc MGI 107739 |
| B07 | UPFM0895568 | ENSMUST00000030814.10 | Cdk5 | ENSMUSG00000028969 | cyclin-dependent kinase 5 Source MGI Symbol Acc MGI 101765 |
| B08 | UPFM0879297 | ENSMUST00000165430.7 | Comt | ENSMUSG00000000326 | catechol-O-methyltransferase Source MGI Symbol Acc MGI 88470 |
| B09 | UPFM0852938 | ENSMUST00000087366.10 | Creb1 | ENSMUSG00000025958 | cAMP responsive element binding protein 1 Source MGI Symbol Acc MGI 88494 |
| B10 | UPFM0968607 | ENSMUST00000230663.1 | Cyp2d22 | ENSMUSG00000061740 | cytochrome P450, family 2, subfamily d, polypeptide 22 Source MGI Symbol Acc MGI 1929474 |
| B11 | UPFM0780654 | ENSMUST00000000910.6 | Dbh | ENSMUSG00000000889 | dopamine beta hydroxylase Source MGI Symbol Acc MGI 94864 |
| B12 | UPFM0945518 | ENSMUST00000136810.7 | Ddc | ENSMUSG00000020182 | dopa decarboxylase Source MGI Symbol Acc MGI 94876 |
| C01 | UPFM0827602 | ENSMUST00000021932.5 | Drd1 | ENSMUSG00000021478 | dopamine receptor D1 Source MGI Symbol Acc MGI 99578 |
| C02 | UPFM0850725 | ENSMUST00000075764.7 | Drd2 | ENSMUSG00000032259 | dopamine receptor D2 Source MGI Symbol Acc MGI 94924 |
| C03 | UPFM0960576 | ENSMUST00000023390.4 | Drd3 | ENSMUSG00000022705 | dopamine receptor D3 Source MGI Symbol Acc MGI 94925 |
| C04 | UPFM0927780 | ENSMUST00000026569.5 | Drd4 | ENSMUSG00000025496 | dopamine receptor D4 Source MGI Symbol Acc MGI 94926 |
| C05 | UPFM0929932 | ENSMUST00000041646.3 | Drd5 | ENSMUSG00000039358 | dopamine receptor D5 Source MGI Symbol Acc MGI 94927 |
| C06 | UPFM0864537 | ENSMUST00000236661.1 | Dusp1 | ENSMUSG00000024190 | dual specificity phosphatase 1 Source MGI Symbol Acc MGI 105120 |
| C07 | UPFM0658113 | ENSMUST00000035129.13 | Ephb1 | ENSMUSG00000032537 | Eph receptor B1 Source MGI Symbol Acc MGI 1096337 |
| C08 | UPFM0764563 | ENSMUST00000136122.7 | Fos | ENSMUSG00000021250 | FBJ osteosarcoma oncogene Source MGI Symbol Acc MGI 95574 |
| C09 | UPFM0791269 | ENSMUST00000022744.4 | Gdnf | ENSMUSG00000022144 | glial cell line derived neurotrophic factor Source MGI Symbol Acc MGI 107430 |
| C10 | UPFM0856761 | ENSMUST00000077902.4 | Gfap | ENSMUSG00000020932 | glial fibrillary acidic protein Source MGI Symbol Acc MGI 95697 |
| | UPFM083513 | ENSMUST00000 | | ENSMUSG00 | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| C11 | 5 | 001112.13 | Grk4 | 000052783 | G protein-coupled receptor kinase 4 Source MGI Symbol Acc MGI 95801 |
| C12 | UPFM0981418 | ENSMUST00000236876.1 | Grk5 | ENSMUSG00000003228 | G protein-coupled receptor kinase 5 Source MGI Symbol Acc MGI 109161 |
| D01 | UPFM0906097 | ENSMUST00000099482.4 | Grk6 | ENSMUSG00000074886 | G protein-coupled receptor kinase 6 Source MGI Symbol Acc MGI 1347078 |
| D02 | UPFM0961696 | ENSMUST00000206654.1 | Gsk3a | ENSMUSG00000057177 | glycogen synthase kinase 3 alpha Source MGI Symbol Acc MGI 2152453 |
| D03 | UPFM0986877 | ENSMUST00000114750.1 | Gsk3b | ENSMUSG00000022812 | glycogen synthase kinase 3 beta Source MGI Symbol Acc MGI 1861437 |
| D04 | UPFM0710454 | ENSMUST00000022235.5 | Htr1a | ENSMUSG00000021721 | 5-hydroxytryptamine (serotonin) receptor 1A Source MGI Symbol Acc MGI 96273 |
| D05 | UPFM0647715 | ENSMUST00000051005.4 | Htr1b | ENSMUSG00000049511 | 5-hydroxytryptamine (serotonin) receptor 1B Source MGI Symbol Acc MGI 96274 |
| D06 | UPFM0901510 | ENSMUST00000117699.1 | Htr1d | ENSMUSG00000070687 | 5-hydroxytryptamine (serotonin) receptor 1D Source MGI Symbol Acc MGI 96276 |
| D07 | UPFM0815503 | ENSMUST00000063076.5 | Htr1f | ENSMUSG00000050783 | 5-hydroxytryptamine (serotonin) receptor 1F Source MGI Symbol Acc MGI 99842 |
| D08 | UPFM0973579 | ENSMUST00000036653.4 | Htr2a | ENSMUSG00000034997 | 5-hydroxytryptamine (serotonin) receptor 2A Source MGI Symbol Acc MGI 109521 |
| D09 | UPFM1126309 | ENSMUST00000155077.1 | Htr2b | ENSMUSG00000026228 | 5-hydroxytryptamine (serotonin) receptor 2B Source MGI Symbol Acc MGI 109323 |
| D10 | UPFM0907429 | ENSMUST00000112831.2 | Htr2c | ENSMUSG00000041380 | 5-hydroxytryptamine (serotonin) receptor 2C Source MGI Symbol Acc MGI 96281 |
| D11 | UPFM0739376 | ENSMUST00000217289.1 | Htr3a | ENSMUSG00000032269 | 5-hydroxytryptamine (serotonin) receptor 3A Source MGI Symbol Acc MGI 96282 |
| D12 | UPFM0895002 | ENSMUST00000008734.4 | Htr3b | ENSMUSG00000008590 | 5-hydroxytryptamine (serotonin) receptor 3B Source MGI Symbol Acc MGI 1861899 |
| E01 | UPFM0937676 | ENSMUST00000237114.1 | Htr4 | ENSMUSG00000026322 | 5 hydroxytryptamine (serotonin) receptor 4 Source MGI Symbol Acc MGI 109246 |
| E02 | UPFM0754510 | ENSMUST00000036227.6 | Htr5a | ENSMUSG00000039106 | 5-hydroxytryptamine (serotonin) receptor 5A Source MGI Symbol Acc MGI 96283 |
| E03 | UPFM0624907 | ENSMUST00000068036.1 | Htr6 | ENSMUSG00000028747 | 5-hydroxytryptamine (serotonin) receptor 6 Source MGI Symbol Acc MGI 1196627 |
| E04 | UPFM0938127 | ENSMUST00000164781.1 | Htr7 | ENSMUSG00000024798 | 5-hydroxytryptamine (serotonin) receptor 7 Source MGI Symbol Acc MGI 99841 |
| E05 | UPFM0984215 | ENSMUST00000203995.1 | Itpr1 | ENSMUSG00000030102 | inositol 1,4,5-trisphosphate receptor 1 Source MGI Symbol Acc MGI 96623 |
| E06 | UPFM0728915 | ENSMUST00000026013.5 | Maoa | ENSMUSG00000025037 | monoamine oxidase A Source MGI Symbol Acc MGI 96915 |
| E07 | UPFM0709877 | ENSMUST00000040820.12 | Maob | ENSMUSG00000040147 | monoamine oxidase B Source MGI Symbol Acc MGI 96916 |
| E08 | UPFM0666259 | ENSMUST00000232611.1 | Mapk1 | ENSMUSG00000063358 | mitogen-activated protein kinase 1 Source MGI Symbol Acc MGI 1346858 |
| E09 | UPFM0715024 | ENSMUST00000023779.7 | Nr4a1 | ENSMUSG00000023034 | nuclear receptor subfamily 4, group A, member 1 Source MGI Symbol Acc MGI 1352454 |
| E10 | UPFM0806324 | ENSMUST00000030025.9 | Nr4a3 | ENSMUSG00000028341 | nuclear receptor subfamily 4, group A, member 3 Source MGI Symbol Acc MGI 1352457 |
| E11 | UPFM0900377 | ENSMUST00000115715.7 | Pde10a | ENSMUSG00000023868 | phosphodiesterase 10A Source MGI Symbol Acc MGI 1345143 |
| E12 | UPFM0999422 | ENSMUST00000039413.14 | Pde4a | ENSMUSG00000032177 | phosphodiesterase 4A, cAMP specific Source MGI Symbol Acc MGI 99558 |
| F01 | UPFM0873615 | ENSMUST00000106904.8 | Pde4b | ENSMUSG00000028525 | phosphodiesterase 4B, cAMP specific Source MGI Symbol Acc MGI 99557 |
| F02 | UPFM0959341 | ENSMUST00000149272.1 | Pde4c | ENSMUSG00000031842 | phosphodiesterase 4C, cAMP specific Source MGI Symbol Acc MGI 99556 |
| F03 | UPFM0869610 | ENSMUST00000153234.7 | Pde4d | ENSMUSG00000021699 | phosphodiesterase 4D, cAMP specific Source MGI Symbol Acc MGI 99555 |
| F04 | UPFM0663131 | ENSMUST00000152113.1 | Pdyn | ENSMUSG00000027400 | prodynorphin Source MGI Symbol Acc MGI 97535 |
| F05 | UPFM0708438 | ENSMUST00000108243.7 | Pik3ca | ENSMUSG00000027665 | phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha Source MGI Symbol Acc MGI 1206581 |
| F06 | UPFM0802127 | ENSMUST00000053215.13 | Pik3cg | ENSMUSG00000020573 | phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit gamma Source MGI Symbol Acc MGI 1353576 |
| F07 | UPFM0738339 | ENSMUST00000102513.7 | Pla2g5 | ENSMUSG00000041193 | phospholipase A2, group V Source MGI Symbol Acc MGI 101899 |
| F08 | UPFM0623683 | ENSMUST00000130524.4 | Plcb1 | ENSMUSG00000051177 | phospholipase C, beta 1 Source MGI Symbol Acc MGI 97613 |
| F09 | UPFM0886181 | ENSMUST00000102524.7 | Plcb2 | ENSMUSG00000040061 | phospholipase C, beta 2 Source MGI Symbol Acc MGI 107465 |
| F10 | UPFM0973210 | ENSMUST00000237726.1 | Plcb3 | ENSMUSG00000024960 | phospholipase C, beta 3 Source MGI Symbol Acc MGI 104778 |
| | | | | | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| F11 | UPFM0776305 | ENSMUST00000137634.1 | Ppp1r1b | ENSMUSG00000061718 | protein phosphatase 1, regulatory inhibitor subunit 1B Source MGI Symbol Acc MGI 94860 |
| F12 | UPFM0918505 | ENSMUST00000211558.1 | Prkaca | ENSMUSG00000005469 | protein kinase, cAMP dependent, catalytic, alpha Source MGI Symbol Acc MGI 97592 |
| G01 | UPFM1004492 | ENSMUST00000190784.1 | Ptgs2 | ENSMUSG00000032487 | prostaglandin-endoperoxide synthase 2 Source MGI Symbol Acc MGI 97798 |
| G02 | UPFM0891529 | ENSMUST00000148856.1 | Slc18a1 | ENSMUSG00000036330 | solute carrier family 18 (vesicular monoamine), member 1 Source MGI Symbol Acc MGI 106684 |
| G03 | UPFM0786232 | ENSMUST00000026084.4 | Slc18a2 | ENSMUSG00000025094 | solute carrier family 18 (vesicular monoamine), member 2 Source MGI Symbol Acc MGI 106677 |
| G04 | UPFM0707417 | ENSMUST00000022100.6 | Slc6a3 | ENSMUSG00000021609 | solute carrier family 6 (neurotransmitter transporter, dopamine), member 3 Source MGI Symbol Acc MGI 94862 |
| G05 | UPFM0720776 | ENSMUST00000021195.10 | Slc6a4 | ENSMUSG00000020838 | solute carrier family 6 (neurotransmitter transporter, serotonin), member 4 Source MGI Symbol Acc MGI 96285 |
| G06 | UPFM0643662 | ENSMUST00000163779.7 | Snca | ENSMUSG00000025889 | synuclein, alpha Source MGI Symbol Acc MGI 1277151 |
| G07 | UPFM0636950 | ENSMUST00000179625.7 | Sncaip | ENSMUSG00000024534 | synuclein, alpha interacting protein (synphilin) Source MGI Symbol Acc MGI 1915097 |
| G08 | UPFM0987260 | ENSMUST00000169345.3 | Syn2 | ENSMUSG00000009394 | synapsin II Source MGI Symbol Acc MGI 103020 |
| G09 | UPFM0790621 | ENSMUST00000137974.1 | Tdo2 | ENSMUSG00000028011 | tryptophan 2,3-dioxygenase Source MGI Symbol Acc MGI 1928486 |
| G10 | UPFM0760054 | ENSMUST00000000219.9 | Th | ENSMUSG00000000214 | tyrosine hydroxylase Source MGI Symbol Acc MGI 98735 |
| G11 | UPFM0765319 | ENSMUST00000172386.7 | Tph1 | ENSMUSG00000040046 | tryptophan hydroxylase 1 Source MGI Symbol Acc MGI 98796 |
| G12 | UPFM0869499 | ENSMUST00000006949.8 | Tph2 | ENSMUSG00000006764 | tryptophan hydroxylase 2 Source MGI Symbol Acc MGI 2651811 |
| H01 | UPFM1132946 | ENSMUST00000163829.1 | Actb | ENSMUSG00000029580 | actin, beta Source MGI Symbol Acc MGI 87904 |
| H02 | UPFM1132947 | ENSMUST00000102476.4 | B2m | ENSMUSG00000060802 | beta-2 microglobulin Source MGI Symbol Acc MGI 88127 |
| H03 | UPFM1132948 | ENSMUST00000117757.8 | Gapdh | ENSMUSG00000057666 | glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640 |
| H04 | UPFM1132949 | ENSMUST00000026613.13 | Gusb | ENSMUSG00000025534 | glucuronidase, beta Source MGI Symbol Acc MGI 95872 |
| H05 | UPFM1132950 | ENSMUST00000166469.7 | Hsp90ab1 | ENSMUSG00000023944 | heat shock protein 90 alpha (cytosolic), class B member 1 Source MGI Symbol Acc MGI 96247 |
| H06 | UPFM1126609 | UPL_MGDC | MGDC | UPL_MGDC | Mouse 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.