

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

## Human Osmotic Stress

Cat. no. 249955 UPHS-151ZR

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 | ABCB1  | ADM    | AGT    | AGTR1 | AKR1B1  | AKT1    | AQP1    | AQP2    | AQP3   | AQP4     | AQP5   | AQP9    |
| B | ATF4   | ATP1A1 | ATP1B1 | AVP   | CALR    | CD9     | CFTR    | CRYAB   | CCN2   | DDIT3    | DUSP1  | EDN1    |
| C | EGFR   | EGR1   | EGR3   | FOS   | GADD45A | GADD45B | GADD45G | GUCA2A  | HMOX1  | HSP90AA1 | HSPA1A | HSPA4   |
| D | HSPA4L | HSPA5  | HSPB1  | IL1B  | CXCL8   | INS     | ITGB1   | JUN     | KCNJ1  | LCN2     | LTB    | MAP2K2  |
| E | MAP3K1 | MAPK1  | MAPK8  | MLC1  | NFAT5   | NFKBIA  | NOS3    | NPR1    | ODC1   | OXT      | PAK2   | PAX2    |
| F | PCK2   | PDIA4  | PLAT   | PTK2  | SGK1    | SLC14A2 | SLC2A1  | SLC38A2 | SLC5A3 | SLC6A12  | SLC6A6 | SLC9A2  |
| G | SLC9A3 | SNAI1  | SRC    | TAT   | TGFA    | TNF     | TP53    | TPM4    | TRPV4  | VEGFA    | VIM    | ZFP36L1 |
| 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      | UPFH0266833 | ENST00000483831.1  | ABCB1    | ENSG00000085563  | ATP binding cassette subfamily B member 1 Source HGNC Symbol Acc HGNC 40               |
| A02      | UPFH1172899 | ENST00000528655.5  | ADM      | ENSG00000148926  | adrenomedullin Source HGNC Symbol Acc HGNC 259                                         |
| A03      | UPFH1132773 | ENST00000366667.5  | AGT      | ENSG00000135744  | angiotensinogen Source HGNC Symbol Acc HGNC 333                                        |
| A04      | UPFH1132221 | ENST00000418473.6  | AGTR1    | ENSG00000144891  | angiotensin II receptor type 1 Source HGNC Symbol Acc HGNC 336                         |
| A05      | UPFH1132223 | ENST00000285930.9  | AKR1B1   | ENSG00000085662  | aldo-keto reductase family 1 member B Source HGNC Symbol Acc HGNC 381                  |
| A06      | UPFH0453992 | ENST0000055528.5   | AKT1     | ENSG00000142208  | AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391                          |
| A07      | UPFH1132239 | ENST00000311813.10 | AQP1     | ENSG00000240583  | aquaporin 1 (Colton blood group) Source HGNC Symbol Acc HGNC 633                       |
| A08      | UPFH0471106 | ENST00000199280.3  | AQP2     | ENSG00000167580  | aquaporin 2 Source HGNC Symbol Acc HGNC 634                                            |
| A09      | UPFH0168530 | ENST00000493581.1  | AQP3     | ENSG00000165272  | aquaporin 3 (Gill blood group) Source HGNC Symbol Acc HGNC 636                         |
| A10      | UPFH1132240 | ENST00000383168.9  | AQP4     | ENSG00000171885  | aquaporin 4 Source HGNC Symbol Acc HGNC 637                                            |
| A11      | UPFH0348877 | ENST00000293599.7  | AQP5     | ENSG00000161798  | aquaporin 5 Source HGNC Symbol Acc HGNC 638                                            |
| A12      | UPFH0173872 | ENST00000558772.5  | AQP9     | ENSG00000103569  | aquaporin 9 Source HGNC Symbol Acc HGNC 643                                            |
| B01      | UPFH1132244 | ENST00000404241.6  | ATF4     | ENSG00000128272  | activating transcription factor 4 Source HGNC Symbol Acc HGNC 786                      |
| B02      | UPFH0142532 | ENST00000488733.1  | ATP1A1   | ENSG00000163399  | ATPase Na+/K+ transporting subunit alpha 1 Source HGNC Symbol Acc HGNC 799             |
| B03      | UPFH0565565 | ENST00000367815.8  | ATP1B1   | ENSG00000143153  | ATPase Na+/K+ transporting subunit beta 1 Source HGNC Symbol Acc HGNC 804              |
| B04      | UPFH0615974 | ENST00000380293.3  | AVP      | ENSG00000101200  | arginine vasopressin Source HGNC Symbol Acc HGNC 894                                   |
| B05      | UPFH0025967 | ENST00000316448.9  | CALR     | ENSG00000179218  | calreticulin Source HGNC Symbol Acc HGNC 1455                                          |
| B06      | UPFH0252582 | ENST00000646407.1  | CD9      | ENSG000001010278 | CD9 molecule Source HGNC Symbol Acc HGNC 1709                                          |
| B07      | UPFH0186636 | ENST00000003084.10 | CFTR     | ENSG00000001626  | cystic fibrosis transmembrane conductance regulator Source HGNC Symbol Acc HGNC 1884   |
| B08      | UPFH0205096 | ENST00000527950.5  | CRYAB    | ENSG00000109846  | crystallin alpha B Source HGNC Symbol Acc HGNC 2389                                    |
| B09      | UPFH1132340 | ENST00000367976.4  | CCN2     | ENSG00000118523  | cellular communication network factor 2 Source HGNC Symbol Acc HGNC 2500               |
| B10      | UPFH0523891 | ENST00000346473.7  | DDIT3    | ENSG00000175197  | DNA damage inducible transcript 3 Source HGNC Symbol Acc HGNC 2726                     |
| B11      | UPFH1132372 | ENST00000239223.4  | DUSP1    | ENSG00000120129  | dual specificity phosphatase 1 Source HGNC Symbol Acc HGNC 3064                        |
| B12      | UPFH1132801 | ENST00000379375.6  | EDN1     | ENSG00000078401  | endothelin 1 Source HGNC Symbol Acc HGNC 3176                                          |
| C01      | UPFH1132381 | ENST00000420316.6  | EGFR     | ENSG00000146648  | epidermal growth factor receptor Source HGNC Symbol Acc HGNC 3236                      |
| C02      | UPFH0558832 | ENST00000239938.5  | EGR1     | ENSG00000120738  | early growth response 1 Source HGNC Symbol Acc HGNC 3238                               |
| C03      | UPFH0445244 | ENST00000522910.1  | EGR3     | ENSG00000179388  | early growth response 3 Source HGNC Symbol Acc HGNC 3240                               |
| C04      | UPFH1132401 | ENST00000555242.1  | FOS      | ENSG00000170345  | Fos proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 3796 |
| C05      | UPFH1132413 | ENST00000370985.4  | GADD45A  | ENSG00000116717  | growth arrest and DNA damage inducible alpha Source HGNC Symbol Acc HGNC 4095          |
| C06      | UPFH1132414 | ENST00000215631.9  | GADD45B  | ENSG00000099860  | growth arrest and DNA damage inducible beta Source HGNC Symbol Acc HGNC 4096           |
| C07      | UPFH1132415 | ENST00000375769.1  | GADD45G  | ENSG00000130222  | growth arrest and DNA damage inducible gamma Source HGNC Symbol Acc HGNC 4097          |
| C08      | UPFH0295673 | ENST00000357001.3  | GUCA2A   | ENSG00000197273  | guanylate cyclase activator 2A Source HGNC Symbol Acc HGNC 4682                        |
| C09      | UPFH0433285 | ENST00000216117.9  | HMOX1    | ENSG00000100292  | heme oxygenase 1 Source HGNC Symbol Acc HGNC 5013                                      |
| C10      | UPFH0292880 | ENST00000334701.11 | HSP90AA1 | ENSG00000080824  | heat shock protein 90 alpha family class A member 1 Source HGNC Symbol Acc HGNC 5253   |
|          |             | ENST00000375       |          | ENSG000000       | heat shock protein family A (Hsp70) member 1A Source HGNC Symbol Acc                   |

| Position | Assay       | Name               | Symbol  | Ensembl ID      | Description                                                                                    |
|----------|-------------|--------------------|---------|-----------------|------------------------------------------------------------------------------------------------|
| C11      | UPFH1126009 | 651.6              | HSPA1A  | 204389          | HGNC 5232                                                                                      |
| C12      | UPFH1132457 | ENST00000304858.7  | HSPA4   | ENSG00000170606 | heat shock protein family A (Hsp70) member 4 Source HGNC Symbol Acc HGNC 5237                  |
| D01      | UPFH1132458 | ENST00000505726.1  | HSPA4L  | ENSG00000164070 | heat shock protein family A (Hsp70) member 4 like Source HGNC Symbol Acc HGNC 17041            |
| D02      | UPFH1132459 | ENST00000324460.7  | HSPA5   | ENSG00000044574 | heat shock protein family A (Hsp70) member 5 Source HGNC Symbol Acc HGNC 5238                  |
| D03      | UPFH1139042 | ENST00000248553.7  | HSPB1   | ENSG00000106211 | heat shock protein family B (small) member 1 Source HGNC Symbol Acc HGNC 5246                  |
| D04      | UPFH0163764 | ENST00000263341.6  | IL1B    | ENSG00000125538 | interleukin 1 beta Source HGNC Symbol Acc HGNC 5992                                            |
| D05      | UPFH0120553 | ENST00000307407.8  | CXCL8   | ENSG00000169429 | C-X-C motif chemokine ligand 8 Source HGNC Symbol Acc HGNC 6025                                |
| D06      | UPFH1132488 | ENST00000381330.4  | INS     | ENSG00000254647 | insulin Source HGNC Symbol Acc HGNC 6081                                                       |
| D07      | UPFH1132498 | ENST00000423113.5  | ITGB1   | ENSG00000150093 | integrin subunit beta 1 Source HGNC Symbol Acc HGNC 6153                                       |
| D08      | UPFH0569765 | ENST00000371222.3  | JUN     | ENSG00000177606 | Jun proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 6204         |
| D09      | UPFH0028572 | ENST00000392665.6  | KCNJ1   | ENSG00000151704 | potassium voltage-gated channel subfamily J member 1 Source HGNC Symbol Acc HGNC 6255          |
| D10      | UPFH0258851 | ENST00000277480.7  | LCN2    | ENSG00000148346 | lipocalin 2 Source HGNC Symbol Acc HGNC 6526                                                   |
| D11      | UPFH0509119 | ENST00000429299.2  | LTB     | ENSG00000227507 | lymphotoxin beta Source HGNC Symbol Acc HGNC 6711                                              |
| D12      | UPFH0606297 | ENST00000599021.1  | MAP2K2  | ENSG00000126934 | mitogen-activated protein kinase kinase 2 Source HGNC Symbol Acc HGNC 6842                     |
| E01      | UPFH1132532 | ENST00000399503.4  | MAP3K1  | ENSG00000095015 | mitogen-activated protein kinase kinase kinase 1 Source HGNC Symbol Acc HGNC 6848              |
| E02      | UPFH0366815 | ENST00000215832.10 | MAPK1   | ENSG00000100030 | mitogen-activated protein kinase 1 Source HGNC Symbol Acc HGNC 6871                            |
| E03      | UPFH1132535 | ENST00000374179.8  | MAPK8   | ENSG00000107643 | mitogen-activated protein kinase 8 Source HGNC Symbol Acc HGNC 6881                            |
| E04      | UPFH0052166 | ENST00000442311.1  | MLC1    | ENSG00000100427 | megalencephalic leukoencephalopathy with subcortical cysts 1 Source HGNC Symbol Acc HGNC 17082 |
| E05      | UPFH0317172 | ENST00000354436.6  | NFAT5   | ENSG00000102908 | nuclear factor of activated T cells 5 Source HGNC Symbol Acc HGNC 7774                         |
| E06      | UPFH0444462 | ENST00000216797.9  | NFKBIA  | ENSG00000100906 | NFkB inhibitor alpha Source HGNC Symbol Acc HGNC 7797                                          |
| E07      | UPFH1132897 | ENST00000297494.8  | NOS3    | ENSG00000164867 | nitric oxide synthase 3 Source HGNC Symbol Acc HGNC 7876                                       |
| E08      | UPFH1132933 | ENST00000368680.4  | NPR1    | ENSG00000169418 | natriuretic peptide receptor 1 Source HGNC Symbol Acc HGNC 7943                                |
| E09      | UPFH0581844 | ENST00000405333.5  | ODC1    | ENSG00000115758 | ornithine decarboxylase 1 Source HGNC Symbol Acc HGNC 8109                                     |
| E10      | UPFH0184831 | ENST00000217386.2  | OXT     | ENSG00000101405 | oxytocin/neurophysin I prepropeptide Source HGNC Symbol Acc HGNC 8528                          |
| E11      | UPFH0578402 | ENST00000426668.1  | PAK2    | ENSG00000180370 | p21 (RAC1) activated kinase 2 Source HGNC Symbol Acc HGNC 8591                                 |
| E12      | UPFH0308376 | ENST00000370296.6  | PAX2    | ENSG00000075891 | paired box 2 Source HGNC Symbol Acc HGNC 8616                                                  |
| F01      | UPFH0165951 | ENST00000216780.8  | PCK2    | ENSG00000100889 | phosphoenolpyruvate carboxykinase 2, mitochondrial Source HGNC Symbol Acc HGNC 8725            |
| F02      | UPFH0236048 | ENST00000286091.9  | PDIA4   | ENSG00000155660 | protein disulfide isomerase family A member 4 Source HGNC Symbol Acc HGNC 30167                |
| F03      | UPFH1132830 | ENST00000352041.7  | PLAT    | ENSG00000104368 | plasminogen activator, tissue type Source HGNC Symbol Acc HGNC 9051                            |
| F04      | UPFH1132643 | ENST00000522684.5  | PTK2    | ENSG00000169398 | protein tyrosine kinase 2 Source HGNC Symbol Acc HGNC 9611                                     |
| F05      | UPFH0010225 | ENST00000367855.7  | SGK1    | ENSG00000118515 | serum/glucocorticoid regulated kinase 1 Source HGNC Symbol Acc HGNC 10810                      |
| F06      | UPFH0463906 | ENST00000586448.5  | SLC14A2 | ENSG00000132874 | solute carrier family 14 member 2 Source HGNC Symbol Acc HGNC 10919                            |
| F07      | UPFH0225912 | ENST00000426263.8  | SLC2A1  | ENSG00000117394 | solute carrier family 2 member 1 Source HGNC Symbol Acc HGNC 11005                             |
| F08      | UPFH0460743 | ENST00000612232.1  | SLC38A2 | ENSG00000134294 | solute carrier family 38 member 2 Source HGNC Symbol Acc HGNC 13448                            |
| F09      | UPFH1132684 | ENST00000381151.5  | SLC5A3  | ENSG00000198743 | solute carrier family 5 member 3 Source HGNC Symbol Acc HGNC 11038                             |
| F10      | UPFH0441624 | ENST00000397296.6  | SLC6A12 | ENSG00000111181 | solute carrier family 6 member 12 Source HGNC Symbol Acc HGNC 11045                            |

| Position | Assay       | Name               | Symbol  | Ensembl ID      | Description                                                                                        |
|----------|-------------|--------------------|---------|-----------------|----------------------------------------------------------------------------------------------------|
| F11      | UPFH0322386 | ENST00000610642.4  | SLC6A6  | ENSG00000131389 | solute carrier family 6 member 6 Source HGNC Symbol Acc HGNC 11052                                 |
| F12      | UPFH0307638 | ENST00000469286.1  | SLC9A2  | ENSG00000115616 | solute carrier family 9 member A2 Source HGNC Symbol Acc HGNC 11072                                |
| G01      | UPFH0332414 | ENST00000644203.1  | SLC9A3  | ENSG00000066230 | solute carrier family 9 member A3 Source HGNC Symbol Acc HGNC 11073                                |
| G02      | UPFH1132841 | ENST00000244050.3  | SNAI1   | ENSG00000124216 | snail family transcriptional repressor 1 Source HGNC Symbol Acc HGNC 11128                         |
| G03      | UPFH0308412 | ENST00000472968.1  | SRC     | ENSG00000197122 | SRC proto-oncogene, non-receptor tyrosine kinase Source HGNC Symbol Acc HGNC 11283                 |
| G04      | UPFH0600142 | ENST00000355962.5  | TAT     | ENSG00000198650 | tyrosine aminotransferase Source HGNC Symbol Acc HGNC 11573                                        |
| G05      | UPFH1132717 | ENST00000295400.11 | TGFA    | ENSG00000163235 | transforming growth factor alpha Source HGNC Symbol Acc HGNC 11765                                 |
| G06      | UPFH1132978 | ENST00000449264.3  | TNF     | ENSG00000232810 | tumor necrosis factor Source HGNC Symbol Acc HGNC 11892                                            |
| G07      | UPFH0565795 | ENST00000269305.8  | TP53    | ENSG00000141510 | tumor protein p53 Source HGNC Symbol Acc HGNC 11998                                                |
| G08      | UPFH0029369 | ENST00000642221.1  | TPM4    | ENSG00000167460 | tropomyosin 4 Source HGNC Symbol Acc HGNC 12013                                                    |
| G09      | UPFH0395222 | ENST00000544971.5  | TRPV4   | ENSG00000111199 | transient receptor potential cation channel subfamily V member 4 Source HGNC Symbol Acc HGNC 18083 |
| G10      | UPFH0281656 | ENST00000425836.6  | VEGFA   | ENSG00000112715 | vascular endothelial growth factor A Source HGNC Symbol Acc HGNC 12680                             |
| G11      | UPFH1132857 | ENST00000544301.7  | VIM     | ENSG00000026025 | vimentin Source HGNC Symbol Acc HGNC 12692                                                         |
| G12      | UPFH0468316 | ENST00000553375.1  | ZFP36L1 | ENSG00000185650 | ZFP36 ring finger protein like 1 Source HGNC Symbol Acc HGNC 1107                                  |
| H01      | UPFH1132936 | ENST00000646664.1  | ACTB    | ENSG00000075624 | actin beta Source HGNC Symbol Acc HGNC 132                                                         |
| H02      | UPFH1132937 | ENST00000544417.5  | B2M     | ENSG00000166710 | beta-2-microglobulin Source HGNC Symbol Acc HGNC 914                                               |
| H03      | UPFH1132938 | ENST00000229239.10 | GAPDH   | ENSG00000111640 | glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141                          |
| H04      | UPFH1132939 | ENST00000298556.8  | HPRT1   | ENSG00000165704 | hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157                          |
| H05      | UPFH1132941 | ENST00000392514.9  | RPLP0   | ENSG00000089157 | 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 $\mu$ 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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