

# QuantiNova® LNA® PCR Focus Panels (96-Well Format and 384-Well [4 x 96] Format)

## Rat Heat Shock Proteins & Chaperones

Cat. no. 249950 SBRN-076ZA

For study focus gene expression analysis

### Shipping and storage

QuantiNova LNA PCR Focus Panels are shipped at ambient temperature. Immediately upon receipt, they should be stored 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 PCR Focus Panels should be used together with the QuantiNova Reverse Transcription Kit for cDNA synthesis and the QuantiNova SYBR® Green PCR Kit (Mastermix) for PCR.

### Panel layout (96-well): QuantiNova LNA PCR Focus Panel

For the 384-well (4 × 96) PCR panels, genes are present in a staggered format. Refer to the QuantiNova LNA PCR System 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 | Atf6    | Bag1    | Bag3   | Bag4    | Bag5    | Coq8a  | Ccs      | Cct2     | Cct3    | Cct4     | Cct5    | Cct6a   |
| B | Cct7    | Cct8    | Cryaa  | Cryab   | Dnaja1  | Dnaja2 | Dnaja3   | Dnaja4   | Dnajb1  | Dnajb11  | Dnajb12 | Dnajb13 |
| C | Dnajb4  | Dnajb5  | Dnajb6 | Dnajb8  | Dnajb9  | Dnajc1 | Dnajc10  | Dnajc11  | Dnajc13 | Dnajc14  | Dnajc15 | Dnajc16 |
| D | Dnajc17 | Dnajc18 | Dnajc2 | Dnajc21 | Dnajc22 | Dnajc3 | Dnajc4   | Dnajc5   | Dnajc5b | Dnajc5g  | Dnajc6  | Dnajc7  |
| E | Dnajc8  | Dnajc9  | Tor1a  | Hsf1    | Hsf2    | Hsf4   | Hsp90aa1 | Hsp90ab1 | Hsp90b1 | Hspa12a  | Hspa12b | Hspa13  |
| F | Hspa14  | Hspa1a  | Hspa11 | Hspa2   | Hspa4   | Hspa4l | Hspa5    | Hspa9    | Hspb1   | Hspb2    | Hspb3   | Hspb6   |
| G | Hspb7   | Hspb8   | Hspb9  | Hspd1   | Hspe1   | Hsph1  | Pfdn1    | Pfdn5    | Pfdn6   | Serpinh1 | Sil1    | Tcp1    |
| H | Actb    | B2m     | Hprt1  | Ldha    | Rplp1   | RGDC   | QIC      | QIC      | QIC     | PPC      | PPC     | PPC     |

## Gene table: QuantiNova LNA PCR Focus Panel

| Position | Assay      | Name                 | Symbol  | Ensembl ID         | Description                                                                     |
|----------|------------|----------------------|---------|--------------------|---------------------------------------------------------------------------------|
| A01      | SBR1113797 | ENSRNOT00000029202.5 | Atf6    | ENSRNOG0000024632  | activating transcription factor 6 Source RGD Symbol Acc 1305471                 |
| A02      | SBR1157338 | ENSRNOT00000011455.6 | Bag1    | ENSRNOG0000008277  | Bcl2 associated athanogene 1 Source RGD Symbol Acc 1305203                      |
| A03      | SBR1204128 | ENSRNOT00000027616.6 | Bag3    | ENSRNOG0000020298  | Bcl2-associated athanogene 3 Source RGD Symbol Acc 1307794                      |
| A04      | SBR1199175 | ENSRNOT00000066901.3 | Bag4    | ENSRNOG0000042560  | BCL2-associated athanogene 4 Source MGI Symbol Acc MGI 1914634                  |
| A05      | SBR1150207 | ENSRNOT00000085594.1 | Bag5    | ENSRNOG0000058841  | BCL2-associated athanogene 5-like 1 Source RGD Symbol Acc 9457021               |
| A06      | SBR1110156 | ENSRNOT00000030135.4 | Coq8a   | ENSRNOG0000043201  | coenzyme Q8A Source RGD Symbol Acc 1308245                                      |
| A07      | SBR1140988 | ENSRNOT00000073983.2 | Ccs     | ENSRNOG0000047816  | copper chaperone for superoxide dismutase Source RGD Symbol Acc 620403          |
| A08      | SBR1209040 | ENSRNOT00000037946.5 | Cct2    | ENSRNOG0000021317  | chaperonin containing TCP1 subunit 2 Source RGD Symbol Acc 1359143              |
| A09      | SBR1184000 | ENSRNOT00000025824.6 | Cct3    | ENSRNOG0000019090  | chaperonin containing TCP1 subunit 3 Source RGD Symbol Acc 735038               |
| A10      | SBR1140872 | ENSRNOT00000012847.3 | Cct4    | ENSRNOG0000009642  | chaperonin containing TCP1 subunit 4 Source RGD Symbol Acc 727937               |
| A11      | SBR1200760 | ENSRNOT00000015886.6 | Cct5    | ENSRNOG0000011632  | chaperonin containing TCP1 subunit 5 Source RGD Symbol Acc 735161               |
| A12      | SBR1102927 | ENSRNOT00000001227.7 | Cct6a   | ENSRNOG0000000923  | chaperonin containing TCP1 subunit 6A Source RGD Symbol Acc 1304763             |
| B01      | SBR1102671 | ENSRNOT00000021030.5 | Cct7    | ENSRNOG0000015630  | chaperonin containing TCP1 subunit 7 Source RGD Symbol Acc 1306422              |
| B02      | SBR1145335 | ENSRNOT00000002169.6 | Cct8    | ENSRNOG00000001592 | chaperonin containing TCP1 subunit 8 Source RGD Symbol Acc 1305452              |
| B03      | SBR1130295 | ENSRNOT00000075545.3 | Cryaa   | ENSRNOG0000047175  | crystallin, alpha A Source RGD Symbol Acc 2413                                  |
| B04      | SBR1151967 | ENSRNOT00000059127.3 | Cryab   | ENSRNOG0000010524  | crystallin, alpha B Source RGD Symbol Acc 2414                                  |
| B05      | SBR1110081 | ENSRNOT00000010061.3 | Dnaja1  | ENSRNOG0000007029  | DnaJ heat shock protein family (Hsp40) member A1 Source RGD Symbol Acc 620942   |
| B06      | SBR1137505 | ENSRNOT00000022573.5 | Dnaja2  | ENSRNOG0000016251  | DnaJ heat shock protein family (Hsp40) member A2 Source RGD Symbol Acc 71001    |
| B07      | SBR1146904 | ENSRNOT00000081596.1 | Dnaja3  | ENSRNOG0000003855  | DnaJ heat shock protein family (Hsp40) member A3 Source RGD Symbol Acc 1306527  |
| B08      | SBR1195653 | ENSRNOT00000017053.4 | Dnaja4  | ENSRNOG0000012106  | DnaJ heat shock protein family (Hsp40) member A4 Source RGD Symbol Acc 1310035  |
| B09      | SBR1139977 | ENSRNOT00000038879.5 | Dnajb1  | ENSRNOG0000021824  | DnaJ heat shock protein family (Hsp40) member B1 Source RGD Symbol Acc 1304725  |
| B10      | SBR1179467 | ENSRNOT00000002462.6 | Dnajb11 | ENSRNOG0000001803  | DnaJ heat shock protein family (Hsp40) member B11 Source RGD Symbol Acc 1307373 |
| B11      | SBR1126205 | ENSRNOT00000044805.3 | Dnajb12 | ENSRNOG0000030408  | DnaJ heat shock protein family (Hsp40) member B12 Source RGD Symbol Acc 1359677 |
| B12      | SBR1146035 | ENSRNOT00000024256.5 | Dnajb13 | ENSRNOG0000017975  | DnaJ heat shock protein family (Hsp40) member B13 Source RGD Symbol Acc 1359131 |
| C01      | SBR1129220 | ENSRNOT00000017381.6 | Dnajb4  | ENSRNOG0000013011  | DnaJ heat shock protein family (Hsp40) member B4 Source RGD Symbol Acc 1305826  |
| C02      | SBR1129655 | ENSRNOT00000080082.1 | Dnajb5  | ENSRNOG0000000130  | DnaJ heat shock protein family (Hsp40) member B5 Source RGD Symbol Acc 1307453  |
| C03      | SBR1107753 | ENSRNOT00000035996.3 | Dnajb6  | ENSRNOG0000010353  | DnaJ heat shock protein family (Hsp40) member B6 Source RGD Symbol Acc 1308207  |
| C04      | SBR1120723 | ENSRNOT00000050584.4 | Dnajb8  | ENSRNOG0000034088  | DnaJ heat shock protein family (Hsp40) member B8 Source RGD Symbol Acc 1561981  |
| C05      | SBR1109895 | ENSRNOT00000005363.5 | Dnajb9  | ENSRNOG0000004006  | DnaJ heat shock protein family (Hsp40) member B9 Source RGD Symbol Acc 3070     |
| C06      | SBR1196421 | ENSRNOT00000000162.7 | Dnajc1  | ENSRNOG0000000150  | DnaJ heat shock protein family (Hsp40) member C1 Source RGD Symbol Acc 2322144  |
| C07      | SBR1197872 | ENSRNOT00000009839.4 | Dnajc10 | ENSRNOG0000006803  | DnaJ heat shock protein family (Hsp40) member C10 Source RGD Symbol Acc 1307813 |
| C08      | SBR1147766 | ENSRNOT00000011960.6 | Dnajc11 | ENSRNOG0000008802  | DnaJ heat shock protein family (Hsp40) member C11 Source RGD Symbol Acc 1307731 |
| C09      | SBR1133244 | ENSRNOT00000015344.7 | Dnajc13 | ENSRNOG0000011491  | DnaJ heat shock protein family (Hsp40) member C13 Source RGD Symbol Acc 1308046 |
| C10      | SBR1177137 | ENSRNOT00000037332.3 | Dnajc14 | ENSRNOG0000006844  | DnaJ heat shock protein family (Hsp40) member C14 Source RGD Symbol Acc 620489  |
|          |            | ENSRNOT000000        |         | ENSRNOG00          | DnaJ heat shock protein family (Hsp40) member C15 Source RGD Symbol Acc         |

| Position | Assay      | Name                 | Symbol   | Ensembl ID        | Description                                                                          |
|----------|------------|----------------------|----------|-------------------|--------------------------------------------------------------------------------------|
| C11      | SBR1132260 | 012530.5             | Dnajc15  | 000009063         | 1307154                                                                              |
| C12      | SBR1137487 | ENSRNOT00000017247.4 | Dnajc16  | ENSRNOG0000012503 | DnaJ heat shock protein family (Hsp40) member C16 Source RGD Symbol Acc 1359395      |
| D01      | SBR1181869 | ENSRNOT00000016692.7 | Dnajc17  | ENSRNOG0000012368 | DnaJ heat shock protein family (Hsp40) member C17 Source RGD Symbol Acc 1308015      |
| D02      | SBR1111201 | ENSRNOT00000027194.6 | Dnajc18  | ENSRNOG0000019995 | DnaJ heat shock protein family (Hsp40) member C18 Source RGD Symbol Acc 1310237      |
| D03      | SBR1148128 | ENSRNOT00000016909.7 | Dnajc2   | ENSRNOG0000012392 | DnaJ heat shock protein family (Hsp40) member C2 Source RGD Symbol Acc 620524        |
| D04      | SBR1152396 | ENSRNOT00000024218.6 | Dnajc21  | ENSRNOG0000017876 | DnaJ heat shock protein family (Hsp40) member C21 Source RGD Symbol Acc 621729       |
| D05      | SBR1122638 | ENSRNOT00000087932.1 | Dnajc22  | ENSRNOG0000053498 | DnaJ heat shock protein family (Hsp40) member C22 Source RGD Symbol Acc 1311098      |
| D06      | SBR1201517 | ENSRNOT00000093411.1 | Dnajc3   | ENSRNOG0000010352 | DnaJ heat shock protein family (Hsp40) member C3 Source RGD Symbol Acc 708518        |
| D07      | SBR1192355 | ENSRNOT00000087285.1 | Dnajc4   | ENSRNOG0000043060 | DnaJ heat shock protein family (Hsp40) member C4 Source RGD Symbol Acc 1308693       |
| D08      | SBR1174689 | ENSRNOT00000020581.3 | Dnajc5   | ENSRNOG0000015202 | DnaJ heat shock protein family (Hsp40) member C5 Source RGD Symbol Acc 620516        |
| D09      | SBR1098051 | ENSRNOT00000017387.5 | Dnajc5b  | ENSRNOG0000012851 | DnaJ heat shock protein family (Hsp40) member C5 beta Source RGD Symbol Acc 1562486  |
| D10      | SBR1104335 | ENSRNOT00000031244.5 | Dnajc5g  | ENSRNOG0000026578 | DnaJ heat shock protein family (Hsp40) member C5 gamma Source RGD Symbol Acc 1307426 |
| D11      | SBR1107699 | ENSRNOT00000086539.1 | Dnajc6   | ENSRNOG0000052887 | DnaJ heat shock protein family (Hsp40) member C6 Source RGD Symbol Acc 1309900       |
| D12      | SBR1183448 | ENSRNOT00000024321.6 | Dnajc7   | ENSRNOG0000017781 | DnaJ heat shock protein family (Hsp40) member C7 Source RGD Symbol Acc 1303226       |
| E01      | SBR1212754 | ENSRNOT00000017740.6 | Dnajc8   | ENSRNOG0000013255 | DnaJ heat shock protein family (Hsp40) member C8 Source RGD Symbol Acc 1306024       |
| E02      | SBR1186289 | ENSRNOT00000009009.5 | Dnajc9   | ENSRNOG0000006619 | DnaJ heat shock protein family (Hsp40) member C9 Source RGD Symbol Acc 1305009       |
| E03      | SBR1205998 | ENSRNOT00000064660.3 | Tor1a    | ENSRNOG0000006894 | torsin family 1, member A Source RGD Symbol Acc 628863                               |
| E04      | SBR1218531 | ENSRNOT00000050108.3 | Hsf1     | ENSRNOG0000021732 | heat shock transcription factor 1 Source RGD Symbol Acc 620913                       |
| E05      | SBR1197745 | ENSRNOT00000001059.4 | Hsf2     | ENSRNOG0000008088 | heat shock transcription factor 2 Source RGD Symbol Acc 68395                        |
| E06      | SBR1133919 | ENSRNOT00000075933.2 | Hsf4     | ENSRNOG0000015253 | heat shock transcription factor 4 Source RGD Symbol Acc 1310808                      |
| E07      | SBR1113341 | ENSRNOT00000086310.1 | Hsp90aa1 | ENSRNOG0000059714 | heat shock protein 90 alpha family class A member 1 Source RGD Symbol Acc 631409     |
| E08      | SBR1225380 | ENSRNOT00000026920.6 | Hsp90ab1 | ENSRNOG0000019834 | heat shock protein 90 alpha family class B member 1 Source RGD Symbol Acc 1303075    |
| E09      | SBR1196985 | ENSRNOT00000079731.1 | Hsp90b1  | ENSRNOG0000026963 | heat shock protein 90 beta family member 1 Source RGD Symbol Acc 1310482             |
| E10      | SBR1187673 | ENSRNOT00000024548.5 | Hspa12a  | ENSRNOG0000018019 | heat shock protein family A (Hsp70) member 12A Source RGD Symbol Acc 1305531         |
| E11      | SBR1095532 | ENSRNOT00000028856.7 | Hspa12b  | ENSRNOG0000021244 | heat shock protein family A (Hsp70) member 12B Source RGD Symbol Acc 1312004         |
| E12      | SBR1145920 | ENSRNOT00000091864.1 | Hspa13   | ENSRNOG0000060979 | heat shock protein family A (Hsp70) member 13 Source RGD Symbol Acc 3775             |
| F01      | SBR1126842 | ENSRNOT00000020854.5 | Hspa14   | ENSRNOG0000015212 | heat shock protein family A, member 14 Source RGD Symbol Acc 1303296                 |
| F02      | SBR1189015 | ENSRNOT00000081924.1 | Hspa1a   | ENSRNOG0000050647 | heat shock protein family A (Hsp70) member 1B Source RGD Symbol Acc 2840             |
| F03      | SBR1207127 | ENSRNOT00000074223.2 | Hspa1l   | ENSRNOG0000047966 | heat shock protein family A (Hsp70) member 1 like Source RGD Symbol Acc 1595925      |
| F04      | SBR1199480 | ENSRNOT00000008504.5 | Hspa2    | ENSRNOG0000006472 | heat shock protein family A member 2 Source RGD Symbol Acc 620664                    |
| F05      | SBR1138708 | ENSRNOT00000023628.3 | Hspa4    | ENSRNOG0000016596 | heat shock protein family A member 4 Source RGD Symbol Acc 628878                    |
| F06      | SBR1146380 | ENSRNOT00000015474.6 | Hspa4l   | ENSRNOG0000010819 | heat shock protein family A (Hsp70) member 4 like Source RGD Symbol Acc 1306528      |
| F07      | SBR1166340 | ENSRNOT00000025067.6 | Hspa5    | ENSRNOG0000018294 | heat shock protein family A member 5 Source RGD Symbol Acc 2843                      |
| F08      | SBR1135337 | ENSRNOT00000026696.6 | Hspa9    | ENSRNOG0000019525 | heat shock protein family A member 9 Source RGD Symbol Acc 1311806                   |
| F09      | SBR1195680 | ENSRNOT00000031555.5 | Hspb1    | ENSRNOG0000023546 | heat shock protein family B (small) member 1 Source RGD Symbol Acc 61306             |
| F10      | SBR1181093 | ENSRNOT00000013960.2 | Hspb2    | ENSRNOG0000010402 | heat shock protein family B (small) member 2 Source RGD Symbol Acc 70914             |

| Position | Assay      | Name                 | Symbol   | Ensembl ID        | Description                                                                 |
|----------|------------|----------------------|----------|-------------------|-----------------------------------------------------------------------------|
| F11      | SBR1187327 | ENSRNOT00000014627.3 | Hspb3    | ENSRNOG0000010992 | heat shock protein family B (small) member 3 Source RGD Symbol Acc 68345    |
| F12      | SBR1212714 | ENSRNOT00000028401.4 | Hspb6    | ENSRNOG0000020922 | heat shock protein family B (small) member 6 Source RGD Symbol Acc 621554   |
| G01      | SBR1162181 | ENSRNOT00000051317.3 | Hspb7    | ENSRNOG0000029079 | heat shock protein family B (small) member 7 Source RGD Symbol Acc 62021    |
| G02      | SBR1153803 | ENSRNOT00000039275.3 | Hspb8    | ENSRNOG0000022392 | heat shock protein family B (small) member 8 Source RGD Symbol Acc 71003    |
| G03      | SBR1095370 | ENSRNOT00000055248.2 | Hspb9    | ENSRNOG0000036819 | heat shock protein family B (small) member 9 Source RGD Symbol Acc 1309122  |
| G04      | SBR1128872 | ENSRNOT00000066589.2 | Hspd1    | ENSRNOG0000014525 | heat shock protein family D member 1 Source RGD Symbol Acc 621314           |
| G05      | SBR1196587 | ENSRNOT00000082300.1 | Hspe1    | ENSRNOG0000051624 | heat shock protein family E member 1 Source RGD Symbol Acc 2844             |
| G06      | SBR1096780 | ENSRNOT00000001201.7 | Hsph1    | ENSRNOG0000000902 | heat shock protein family H (Hsp110) member 1 Source RGD Symbol Acc 1311609 |
| G07      | SBR1118103 | ENSRNOT00000025353.5 | Pfdn1    | ENSRNOG0000018653 | prefoldin subunit 1 Source RGD Symbol Acc 1305603                           |
| G08      | SBR1186908 | ENSRNOT00000017794.5 | Pfdn5    | ENSRNOG0000012985 | prefoldin subunit 5 Source RGD Symbol Acc 1311436                           |
| G09      | SBR1111422 | ENSRNOT00000092676.1 | Pfdn6    | ENSRNOG0000000473 | prefoldin subunit 6 Source RGD Symbol Acc 1303006                           |
| G10      | SBR1138731 | ENSRNOT00000022983.6 | Serpinh1 | ENSRNOG0000016831 | serpin family H member 1 Source RGD Symbol Acc 69302                        |
| G11      | SBR1127515 | ENSRNOT00000026895.5 | Sil1     | ENSRNOG0000019826 | SIL1 nucleotide exchange factor Source RGD Symbol Acc 735103                |
| G12      | SBR1154694 | ENSRNOT00000019531.4 | Tcp1     | ENSRNOG0000014160 | t-complex 1 Source RGD Symbol Acc 3832                                      |
| H01      | SBR1220567 | ENSRNOT00000042459.4 | Actb     | ENSRNOG0000034254 | actin, beta Source RGD Symbol Acc 628837                                    |
| H02      | SBR1220568 | ENSRNOT00000023017.5 | B2m      | ENSRNOG0000017123 | beta-2 microglobulin Source RGD Symbol Acc 2189                             |
| H03      | SBR1225377 | ENSRNOT00000065935.3 | Hprt1    | ENSRNOG0000048561 | hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826         |
| H04      | SBR1122313 | ENSRNOT00000017468.2 | Ldha     | ENSRNOG0000013009 | lactate dehydrogenase A Source RGD Symbol Acc 2996                          |
| H05      | SBR1220572 | ENSRNOT00000018820.5 | Rplp1    | ENSRNOG0000013874 | ribosomal protein lateral stalk subunit P1 Source RGD Symbol Acc 621774     |
| H06      | SBR1218555 | Sybr_RGDC            | RGDC     | Sybr_RGDC         | Rat Genomic DNA Contamination                                               |
| H07      | SBH1218551 | Sybr_QIC             | QIC      | Sybr_QIC          | QuantiNova Internal Control                                                 |
| H08      | SBH1218551 | Sybr_QIC             | QIC      | Sybr_QIC          | QuantiNova Internal Control                                                 |
| H09      | SBH1218551 | Sybr_QIC             | QIC      | Sybr_QIC          | QuantiNova Internal Control                                                 |
| H10      | SBH1218550 | Sybr_PPC             | PPC      | Sybr_PPC          | Positive PCR Control                                                        |
| H11      | SBH1218550 | Sybr_PPC             | PPC      | Sybr_PPC          | Positive PCR Control                                                        |
| H12      | SBH1218550 | Sybr_PPC             | PPC      | Sybr_PPC          | Positive PCR Control                                                        |



## Related products

| Product                                    | Contents                                                                                                                                                                                                                                                         | Cat. no. |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| QuantiNova LNA PCR QC Panel                | These panels are designed to assess the quality of RNA samples before characterization using QuantiNova LNA PCR Focus Panels; available in 96-well, 384-well, and Rotor-Disc 100 formats                                                                         | 249940   |
| 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 SYBR Green RT-PCR Kit (100)*    | For 100 x 20 $\mu$ l reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 $\mu$ l QuantiNova SYBR Green 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 | 208152   |
| QuantiNova SYBR Green PCR Kit (100)*       | For 100 x 20 $\mu$ l reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 $\mu$ l QuantiNova Yellow Template Dilution Buffer, 250 $\mu$ l QN ROX Reference Dye, 1.9 ml Water                                                                             | 208052   |

\*Larger kit sizes available.

The QuantiNova LNA 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.

Trademarks: QIAGEN®, LNA®, QuantiNova®, Sample to Insight® (QIAGEN Group); SYBR® (Life Technologies Corp.). Registered names, trademarks, etc. used in this document, even when not specifically marked as such, are not to be considered unprotected by law.

09/2019 © 2019 QIAGEN, all rights reserved.