

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

## Rat Cellular Stress Responses

Cat. no. 249955 UPRN-019ZA

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 (96-well): QuantiNova LNA Probe PCR Focus Panel

For the 384-well (4 × 96) PCR panels, genes are present in a staggered format. 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
<b>A</b>	Acad5b	Bag1	Calr	Canx	Cat	Cct2	Cct3	Cct4	Cct5	Cct7	Cct8	Ces1d
<b>B</b>	Ces1a	Clu	Cryaa	Cryab	Cyp11a1	Cyp17a1	Cyp1a1	Cyp1a2	Cyp1b1	Cyp2c12	Cyp2c13	Cyp2c6v1
<b>C</b>	Cyp2c7	Cyp2d4	Cyp2e1	Cyp2f4	AABR0703537 4.1	Cyp4b1	Cyp7a1	Cyp7b1	Dnaja1	Dnaja2	Dnaja3	Dnaja4
<b>D</b>	Dnajb1	Dnajb11	Dnajb12	Dnajb4	Dnajb5	Dnajb6	Dnajb9	Dnajc1	Dnajc4	Dnajc5	Dnajc6	Dnajc7
<b>E</b>	Dnajc8	Dnajc9	Ephx2	Fmo1	Fmo4	Fmo5	Gpx1	Gpx2	Gsr	Gsta1	Gstk1	Gstm1
<b>F</b>	Gsta1	Hmox1	Hmox2	Hopx	Hspa12a	Hspa1a	Hspa11	Hspa2	Hspa4	Hspa5	Hspa9	Hspb1
<b>G</b>	Hspb2	Hspb3	Hspd1	Hspe1	Ppid	Serpinh1	Sod1	Sod2	Sod3	St13	Tcp1	Xdh
<b>H</b>	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	UPFR1033662	ENSRNOT00000027999.4	Acad5b	ENSRNOG0000020624	acyl-CoA dehydrogenase, short/branched chain Source RGD Symbol Acc 2013
A02	UPFR1065096	ENSRNOT00000011455.6	Bag1	ENSRNOG0000008277	Bcl2 associated athanogene 1 Source RGD Symbol Acc 1305203
A03	UPFR1077775	ENSRNOT00000004091.6	Calr	ENSRNOG0000003029	calreticulin Source RGD Symbol Acc 620288
A04	UPFR1061148	ENSRNOT00000049942.4	Canx	ENSRNOG0000003343	calnexin Source RGD Symbol Acc 2266
A05	UPFR1119733	ENSRNOT00000011230.5	Cat	ENSRNOG0000008364	catalase Source RGD Symbol Acc 2279
A06	UPFR1014516	ENSRNOT00000037946.5	Cct2	ENSRNOG0000021317	chaperonin containing TCP1 subunit 2 Source RGD Symbol Acc 1359143
A07	UPFR1097743	ENSRNOT00000025824.6	Cct3	ENSRNOG0000019090	chaperonin containing TCP1 subunit 3 Source RGD Symbol Acc 735038
A08	UPFR1105932	ENSRNOT00000012847.3	Cct4	ENSRNOG0000009642	chaperonin containing TCP1 subunit 4 Source RGD Symbol Acc 727937
A09	UPFR1070717	ENSRNOT00000015886.6	Cct5	ENSRNOG0000011632	chaperonin containing TCP1 subunit 5 Source RGD Symbol Acc 735161
A10	UPFR1021131	ENSRNOT00000021030.5	Cct7	ENSRNOG0000015630	chaperonin containing TCP1 subunit 7 Source RGD Symbol Acc 1306422
A11	UPFR1051988	ENSRNOT00000002169.6	Cct8	ENSRNOG0000001592	chaperonin containing TCP1 subunit 8 Source RGD Symbol Acc 1305452
A12	UPFR1017286	ENSRNOT00000021812.6	Ces1d	ENSRNOG0000015519	carboxylesterase 1D Source RGD Symbol Acc 70896
B01	UPFR1088352	ENSRNOT00000060929.2	Ces1a	ENSRNOG0000039725	carboxylesterase 1A Source RGD Symbol Acc 1583671
B02	UPFR1050205	ENSRNOT00000091612.1	Clu	ENSRNOG0000016460	clusterin Source RGD Symbol Acc 3907
B03	UPFR1122088	ENSRNOT00000071248.2	Cryaa	ENSRNOG0000047175	crystallin, alpha A Source RGD Symbol Acc 2413
B04	UPFR1023967	ENSRNOT00000059127.3	Cryab	ENSRNOG0000010524	crystallin, alpha B Source RGD Symbol Acc 2414
B05	UPFR1086821	ENSRNOT00000010831.6	Cyp11a1	ENSRNOG0000008074	cytochrome P450, family 11, subfamily a, polypeptide 1 Source RGD Symbol Acc 69325
B06	UPFR1119383	ENSRNOT00000027160.4	Cyp17a1	ENSRNOG0000020035	cytochrome P450, family 17, subfamily a, polypeptide 1 Source RGD Symbol Acc 2456
B07	UPFR1063695	ENSRNOT00000026473.4	Cyp1a1	ENSRNOG0000019500	cytochrome P450, family 1, subfamily a, polypeptide 1 Source RGD Symbol Acc 2458
B08	UPFR1096006	ENSRNOT00000021653.7	Cyp1a2	ENSRNOG0000016173	cytochrome P450, family 1, subfamily a, polypeptide 2 Source RGD Symbol Acc 2459
B09	UPFR1085739	ENSRNOT00000082017.1	Cyp1b1	ENSRNOG0000040287	cytochrome P450, family 1, subfamily b, polypeptide 1 Source RGD Symbol Acc 2460
B10	UPFR1028885	ENSRNOT00000015801.7	Cyp2c12	ENSRNOG0000047945	cytochrome P450, family 2, subfamily c, polypeptide 12 Source RGD Symbol Acc 2470
B11	UPFR1042427	ENSRNOT00000071633.3	Cyp2c13	ENSRNOG0000049464	cytochrome P450, family 2, subfamily c, polypeptide 13 Source RGD Symbol Acc 620363
B12	UPFR1089259	ENSRNOT00000054742.5	Cyp2c6v1	ENSRNOG0000024016	cytochrome P450, family 2, subfamily C, polypeptide 6, variant 1 Source RGD Symbol Acc 619934
C01	UPFR1084451	ENSRNOT00000040325.5	Cyp2c7	ENSRNOG0000021405	cytochrome P450, family 2, subfamily c, polypeptide 7 Source RGD Symbol Acc 620379
C02	UPFR1014363	ENSRNOT00000011880.6	Cyp2d4	ENSRNOG0000032261	cytochrome P450, family 2, subfamily d, polypeptide 4 Source RGD Symbol Acc 620640
C03	UPFR1025167	ENSRNOT00000016883.6	Cyp2e1	ENSRNOG0000012458	cytochrome P450, family 2, subfamily e, polypeptide 1 Source RGD Symbol Acc 2475
C04	UPFR1112133	ENSRNOT00000068690.3	Cyp2f4	ENSRNOG0000032805	cytochrome P450, family 2, subfamily f, polypeptide 4 Source RGD Symbol Acc 2476
C05	UPFR1096844	ENSRNOT00000076813.1	AABR07035374.1	ENSRNOG0000000978	
C06	UPFR1083696	ENSRNOT00000013321.6	Cyp4b1	ENSRNOG0000055078	cytochrome P450, family 4, subfamily b, polypeptide 1 Source RGD Symbol Acc 2480
C07	UPFR1121855	ENSRNOT00000012819.4	Cyp7a1	ENSRNOG0000009488	cytochrome P450 family 7 subfamily A member 1 Source RGD Symbol Acc 2482
C08	UPFR1113756	ENSRNOT00000013116.6	Cyp7b1	ENSRNOG0000009730	cytochrome P450 family 7 subfamily B member 1 Source RGD Symbol Acc 2483
C09	UPFR1100143	ENSRNOT00000010061.3	Dnaja1	ENSRNOG0000007029	DnaJ heat shock protein family (Hsp40) member A1 Source RGD Symbol Acc 620942
C10	UPFR1042683	ENSRNOT00000022573.5	Dnaja2	ENSRNOG0000016251	DnaJ heat shock protein family (Hsp40) member A2 Source RGD Symbol Acc 71001
		ENSRNOT000000		ENSRNOG00	DnaJ heat shock protein family (Hsp40) member A3 Source RGD Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description																																			
C11	UPFR1067066	085230.1	Dnaja3	000003855	1306527																																			
C12	UPFR1038059	ENSRNOT00000017053.4	Dnaja4	ENSRNOG0000012106	DnaJ heat shock protein family (Hsp40) member A4 Source RGD Symbol Acc 1310035																																			
D01	UPFR1097359	ENSRNOT00000079106.1	Dnajb1	ENSRNOG00000021824	DnaJ heat shock protein family (Hsp40) member B1 Source RGD Symbol Acc 1304725																																			
D02	UPFR1027679	ENSRNOT00000002462.6	Dnajb11	ENSRNOG0000001803	DnaJ heat shock protein family (Hsp40) member B11 Source RGD Symbol Acc 1307373																																			
D03	UPFR1027289	ENSRNOT00000044805.3	Dnajb12	ENSRNOG00000030408	DnaJ heat shock protein family (Hsp40) member B12 Source RGD Symbol Acc 1359677																																			
D04	UPFR1094647	ENSRNOT00000086878.1	Dnajb4	ENSRNOG0000013011	DnaJ heat shock protein family (Hsp40) member B4 Source RGD Symbol Acc 1305826																																			
D05	UPFR1061406	ENSRNOT00000000142.7	Dnajb5	ENSRNOG0000000130	DnaJ heat shock protein family (Hsp40) member B5 Source RGD Symbol Acc 1307453																																			
D06	UPFR1048407	ENSRNOT00000035996.3	Dnajb6	ENSRNOG0000010353	DnaJ heat shock protein family (Hsp40) member B6 Source RGD Symbol Acc 1308207																																			
D07	UPFR1035857	ENSRNOT00000005363.5	Dnajb9	ENSRNOG0000004006	DnaJ heat shock protein family (Hsp40) member B9 Source RGD Symbol Acc 3070																																			
D08	UPFR1114589	ENSRNOT00000000162.7	Dnajc1	ENSRNOG0000000150	DnaJ heat shock protein family (Hsp40) member C1 Source RGD Symbol Acc 2322144																																			
D09	UPFR1062488	ENSRNOT00000028731.5	Dnajc4	ENSRNOG0000043060	DnaJ heat shock protein family (Hsp40) member C4 Source RGD Symbol Acc 1308693																																			
D10	UPFR1111951	ENSRNOT00000020581.3	Dnajc5	ENSRNOG0000015202	DnaJ heat shock protein family (Hsp40) member C5 Source RGD Symbol Acc 620516																																			
D11	UPFR1096258	ENSRNOT00000086259.1	Dnajc6	ENSRNOG0000052887	DnaJ heat shock protein family (Hsp40) member C6 Source RGD Symbol Acc 1309900																																			
D12	UPFR1018382	ENSRNOT00000024321.6	Dnajc7	ENSRNOG0000017781	DnaJ heat shock protein family (Hsp40) member C7 Source RGD Symbol Acc 1303226																																			
E01	UPFR1093146	ENSRNOT00000089852.1	Dnajc8	ENSRNOG0000013255	DnaJ heat shock protein family (Hsp40) member C8 Source RGD Symbol Acc 1306024																																			
E02	UPFR1059752	ENSRNOT00000009009.5	Dnajc9	ENSRNOG0000006619	DnaJ heat shock protein family (Hsp40) member C9 Source RGD Symbol Acc 1305009																																			
E03	UPFR1054800	ENSRNOT00000023385.7	Ephx2	ENSRNOG0000017286	epoxide hydrolase 2 Source RGD Symbol Acc 620732																																			
E04	UPFR1112930	ENSRNOT00000081551.1	Fmo1	ENSRNOG0000034191	flavin containing monooxygenase 1 Source RGD Symbol Acc 2622																																			
E05	UPFR1103576	ENSRNOT00000004577.6	Fmo4	ENSRNOG0000003400	flavin containing monooxygenase 4 Source RGD Symbol Acc 628601																																			
E06	UPFR1073066	ENSRNOT00000024423.5	Fmo5	ENSRNOG0000018076	flavin containing monooxygenase 5 Source RGD Symbol Acc 628602																																			
E07	UPFR1108384	ENSRNOT00000073247.2	Gpx1	ENSRNOG0000048812	glutathione peroxidase 1 Source RGD Symbol Acc 2729																																			
E08	UPFR1055910	ENSRNOT00000080270.1	Gpx2	ENSRNOG0000055672	glutathione peroxidase 2 Source RGD Symbol Acc 727780																																			
E09	UPFR1080300	ENSRNOT00000090036.1	Gsr	ENSRNOG0000014915	glutathione-disulfide reductase Source RGD Symbol Acc 621747																																			
E10	UPFR1111390	ENSRNOT00000085195.1	Gsta1	ENSRNOG0000013484	glutathione S-transferase alpha 1 Source RGD Symbol Acc 2753																																			
E11	UPFR1022537	ENSRNOT00000022275.4	Gstk1	ENSRNOG0000016484	glutathione S-transferase kappa 1 Source RGD Symbol Acc 735188																																			
E12	UPFR1118427	ENSRNOT00000047139.3	Gstm1	ENSRNOG0000029726	glutathione S-transferase mu 1 Source RGD Symbol Acc 2755																																			
F01	UPFR1078773	ENSRNOT00000076367.2	Gsto1	ENSRNOG0000028746	glutathione S-transferase omega 1 Source RGD Symbol Acc 70952																																			
F02	UPFR1040868	ENSRNOT00000019192.6	Hmox1	ENSRNOG0000014117	heme oxygenase 1 Source RGD Symbol Acc 2806																																			
F03	UPFR1064114	ENSRNOT00000005031.5	Hmox2	ENSRNOG0000003773	heme oxygenase 2 Source RGD Symbol Acc 67402																																			
F04	ENSRNOT00000049774.4	Hopx	ENSRNOG0000024689	HOP homeobox Source RGD Symbol Acc 621841	F05	UPFR1116933	ENSRNOT00000024548.5	Hspa12a	ENSRNOG0000018019	heat shock protein family A (Hsp70) member 12A Source RGD Symbol Acc 1305531	F06	UPFR1057108	ENSRNOT00000081924.1	Hspa1a	ENSRNOG0000050647	heat shock protein family A (Hsp70) member 1B Source RGD Symbol Acc 2840	F07	UPFR1120774	ENSRNOT00000074223.2	Hspa1l	ENSRNOG0000047966	heat shock protein family A (Hsp70) member 1 like Source RGD Symbol Acc 1595925	F08	UPFR1042960	ENSRNOT00000008504.5	Hspa2	ENSRNOG0000006472	heat shock protein family A member 2 Source RGD Symbol Acc 620664	F09	UPFR1042317	ENSRNOT00000023628.3	Hspa4	ENSRNOG0000016596	heat shock protein family A member 4 Source RGD Symbol Acc 628878	F10	UPFR1074347	ENSRNOT00000025067.6	Hspa5	ENSRNOG0000018294	heat shock protein family A member 5 Source RGD Symbol Acc 2843
F05	UPFR1116933	ENSRNOT00000024548.5	Hspa12a	ENSRNOG0000018019	heat shock protein family A (Hsp70) member 12A Source RGD Symbol Acc 1305531																																			
F06	UPFR1057108	ENSRNOT00000081924.1	Hspa1a	ENSRNOG0000050647	heat shock protein family A (Hsp70) member 1B Source RGD Symbol Acc 2840																																			
F07	UPFR1120774	ENSRNOT00000074223.2	Hspa1l	ENSRNOG0000047966	heat shock protein family A (Hsp70) member 1 like Source RGD Symbol Acc 1595925																																			
F08	UPFR1042960	ENSRNOT00000008504.5	Hspa2	ENSRNOG0000006472	heat shock protein family A member 2 Source RGD Symbol Acc 620664																																			
F09	UPFR1042317	ENSRNOT00000023628.3	Hspa4	ENSRNOG0000016596	heat shock protein family A member 4 Source RGD Symbol Acc 628878																																			
F10	UPFR1074347	ENSRNOT00000025067.6	Hspa5	ENSRNOG0000018294	heat shock protein family A member 5 Source RGD Symbol Acc 2843																																			

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFR1066449	ENSRNOT00000026696.6	Hspa9	ENSRNOG0000019525	heat shock protein family A member 9 Source RGD Symbol Acc 1311806
F12	UPFR1030516	ENSRNOT00000031555.5	Hspb1	ENSRNOG0000023546	heat shock protein family B (small) member 1 Source RGD Symbol Acc 61306
G01	UPFR1053177	ENSRNOT00000013960.2	Hspb2	ENSRNOG0000010402	heat shock protein family B (small) member 2 Source RGD Symbol Acc 70914
G02	UPFR1095047	ENSRNOT00000014627.3	Hspb3	ENSRNOG0000010992	heat shock protein family B (small) member 3 Source RGD Symbol Acc 68345
G03	UPFR1095647	ENSRNOT00000066589.2	Hspd1	ENSRNOG0000014525	heat shock protein family D member 1 Source RGD Symbol Acc 621314
G04	UPFR1109905	ENSRNOT00000082300.1	Hspe1	ENSRNOG0000051624	heat shock protein family E member 1 Source RGD Symbol Acc 2844
G05	UPFR1030191	ENSRNOT00000037890.4	Ppid	ENSRNOG0000027408	peptidylprolyl isomerase D Source RGD Symbol Acc 1303174
G06	UPFR1044270	ENSRNOT00000086091.1	Serpinh1	ENSRNOG0000016831	serpin family H member 1 Source RGD Symbol Acc 69302
G07	UPFR1062096	ENSRNOT00000002885.6	Sod1	ENSRNOG0000002115	superoxide dismutase 1 Source RGD Symbol Acc 3731
G08	UPFR1090502	ENSRNOT00000025794.4	Sod2	ENSRNOG0000019048	superoxide dismutase 2 Source RGD Symbol Acc 3732
G09	UPFR1098616	ENSRNOT00000005155.3	Sod3	ENSRNOG0000003869	superoxide dismutase 3 Source RGD Symbol Acc 3733
G10	UPFR1080591	ENSRNOT00000025925.3	St13	ENSRNOG0000019070	ST13, Hsp70 interacting protein Source RGD Symbol Acc 621312
G11	UPFR1028029	ENSRNOT00000019531.4	Tcp1	ENSRNOG0000014160	t-complex 1 Source RGD Symbol Acc 3832
G12	UPFR1070658	ENSRNOT00000009634.6	Xdh	ENSRNOG0000007081	xanthine dehydrogenase Source RGD Symbol Acc 62043
H01	UPFR1132952	ENSRNOT00000080216.1	Actb	ENSRNOG0000034254	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.

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.