

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

## Rat Drug Metabolism: Phase I Enzymes

Cat. no. 249955 UPRN-068ZA

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
A	Aadac	Adh6a	Adh4	Adh1	Adh7	Aldh1a1	Aldh1a2	Aldh1a3	Aldh1b1	Aldh2	Aldh3a1	Aldh3a2
B	Aldh3b1	Adhfe1	Aldh5a1	Aldh6a1	Aldh7a1	Aldh8a1	Aldh9a1	Cel	Cyp11a1	Cyp2b12	Cyp17a1	Cyp19a1
C	Cyp1a1	Cyp1a2	Cyp1b1	Cyp24a1	Cyp26a1	Cyp26b1	Cyp26c1	Cyp27a1	Cyp27b1	Cyp2a1	Cyp2b2	Cyp2b3
D	Cyp2c11	Cyp2c22	Cyp2c23	Cyp2b1	Cyp2c6v1	Cyp2c7	Cyp2c13	Cyp2d2	Cyp2d4	Cyp2e1	Cyp2f4	Cyp2r1
E	Cyp2s1	Cyp2t1	Cyp2w1	Cyp3a18	Cyp2d1	Cyp3a9	Cyp4a3	Cyp4a8	Cyp4b1	Cyp4f1	Cyp4f18	Cyp4f4
F	Cyp4f40	Cyp4f6	Cyp7a1	Cyp7b1	Cyp8b1	Dhrs2	Dpyd	Esd	Fmo1	Fmo2	Fmo3	Fmo4
G	Fmo5	Gzma	Gzmb	Hsd17b10	Maaa	Maob	Ptgs1	Ptgs2	Iifo2	Uchl1	Uchl3	Xdh
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	UPFR1056916	ENSRNOT00000018761.4	Aadac	ENSRNOG0000013950	arylacetamide deacetylase Source RGD Symbol Acc 631440
A02	UPFR1096540	ENSRNOT00000016556.6	Adh6a	ENSRNOG0000012281	alcohol dehydrogenase 6A (class V) Source RGD Symbol Acc 1310029
A03	UPFR1074490	ENSRNOT00000016891.6	Adh4	ENSRNOG0000046357	alcohol dehydrogenase 4 (class II), pi polypeptide Source RGD Symbol Acc 71028
A04	UPFR1120480	ENSRNOT00000036993.4	Adh1	ENSRNOG0000012436	alcohol dehydrogenase 6 (class V) Source RGD Symbol Acc 1306313
A05	UPFR1092592	ENSRNOT00000015870.4	Adh7	ENSRNOG0000032959	alcohol dehydrogenase 7 (class IV), mu or sigma polypeptide Source RGD Symbol Acc 621638
A06	UPFR1084336	ENSRNOT00000024000.6	Aldh1a1	ENSRNOG0000017619	aldehyde dehydrogenase 1 family, member A1 Source RGD Symbol Acc 2087
A07	UPFR1105234	ENSRNOT00000079115.1	Aldh1a2	ENSRNOG0000055049	aldehyde dehydrogenase 1 family, member A2 Source RGD Symbol Acc 620250
A08	UPFR1080324	ENSRNOT00000085158.1	Aldh1a3	ENSRNOG0000052070	aldehyde dehydrogenase 1 family, member A3 Source RGD Symbol Acc 628662
A09	UPFR1082817	ENSRNOT00000015281.4	Aldh1b1	ENSRNOG0000011497	aldehyde dehydrogenase 1 family, member B1 Source RGD Symbol Acc 1306737
A10	UPFR1023720	ENSRNOT00000001816.6	Aldh2	ENSRNOG0000001344	aldehyde dehydrogenase 2 family (mitochondrial) Source RGD Symbol Acc 69219
A11	UPFR1033359	ENSRNOT00000003182.5	Aldh3a1	ENSRNOG0000002331	aldehyde dehydrogenase 3 family, member A1 Source RGD Symbol Acc 2088
A12	UPFR1037207	ENSRNOT00000066109.3	Aldh3a2	ENSRNOG0000002342	aldehyde dehydrogenase 3 family, member A2 Source RGD Symbol Acc 61866
B01	UPFR1059598	ENSRNOT00000023789.5	Aldh3b1	ENSRNOG0000017512	aldehyde dehydrogenase 3 family, member B1 Source RGD Symbol Acc 1359546
B02	UPFR1052932	ENSRNOT00000009462.6	Adhfe1	ENSRNOG0000007069	alcohol dehydrogenase, iron containing, 1 Source RGD Symbol Acc 1308863
B03	UPFR1109197	ENSRNOT00000031384.5	Aldh5a1	ENSRNOG0000023538	aldehyde dehydrogenase 5 family, member A1 Source RGD Symbol Acc 621422
B04	UPFR1090128	ENSRNOT00000015545.4	Aldh6a1	ENSRNOG0000011419	aldehyde dehydrogenase 6 family, member A1 Source RGD Symbol Acc 621556
B05	UPFR1106862	ENSRNOT00000020325.7	Aldh7a1	ENSRNOG0000014645	aldehyde dehydrogenase 7 family, member A1 Source RGD Symbol Acc 1308614
B06	UPFR1014181	ENSRNOT00000020015.5	Aldh8a1	ENSRNOG0000014907	aldehyde dehydrogenase 8 family, member A1 Source RGD Symbol Acc 1590218
B07	UPFR1078182	ENSRNOT00000005611.5	Aldh9a1	ENSRNOG0000004027	aldehyde dehydrogenase 9 family, member A1 Source RGD Symbol Acc 68409
B08	UPFR1115409	ENSRNOT00000014572.4	Cel	ENSRNOG0000010406	carboxyl ester lipase Source RGD Symbol Acc 2331
B09	UPFR1086821	ENSRNOT00000010831.6	Cyp11a1	ENSRNOG0000008074	cytochrome P450, family 11, subfamily a, polypeptide 1 Source RGD Symbol Acc 69325
B10	UPFR1107694	ENSRNOT00000041580.3	Cyp2b12	ENSRNOG0000031529	cytochrome P450, family 2, subfamily b, polypeptide 12 Source RGD Symbol Acc 620088
B11	UPFR1119383	ENSRNOT00000027160.4	Cyp17a1	ENSRNOG0000020035	cytochrome P450, family 17, subfamily a, polypeptide 1 Source RGD Symbol Acc 2456
B12	UPFR1043142	ENSRNOT00000000212.7	Cyp19a1	ENSRNOG0000000196	cytochrome P450, family 19, subfamily a, polypeptide 1 Source RGD Symbol Acc 2457
C01	UPFR1063695	ENSRNOT00000026473.4	Cyp1a1	ENSRNOG0000019500	cytochrome P450, family 1, subfamily a, polypeptide 1 Source RGD Symbol Acc 2458
C02	UPFR1096006	ENSRNOT00000021653.7	Cyp1a2	ENSRNOG0000016173	cytochrome P450, family 1, subfamily a, polypeptide 2 Source RGD Symbol Acc 2459
C03	UPFR1085739	ENSRNOT00000082017.1	Cyp1b1	ENSRNOG0000040287	cytochrome P450, family 1, subfamily b, polypeptide 1 Source RGD Symbol Acc 2460
C04	UPFR1081774	ENSRNOT00000046011.2	Cyp24a1	ENSRNOG0000013062	cytochrome P450, family 24, subfamily a, polypeptide 1 Source RGD Symbol Acc 2462
C05	UPFR1013374	ENSRNOT00000022549.4	Cyp26a1	ENSRNOG0000016750	cytochrome P450, family 26, subfamily a, polypeptide 1 Source RGD Symbol Acc 620161
C06	UPFR1111087	ENSRNOT00000020505.3	Cyp26b1	ENSRNOG0000015076	cytochrome P450, family 26, subfamily b, polypeptide 1 Source RGD Symbol Acc 631379
C07	UPFR1066468	ENSRNOT00000030962.3	Cyp26c1	ENSRNOG0000030698	cytochrome P450, family 26, subfamily C, polypeptide 1 Source RGD Symbol Acc 1308843
C08	UPFR1033054	ENSRNOT00000023152.5	Cyp27a1	ENSRNOG0000017188	cytochrome P450, family 27, subfamily a, polypeptide 1 Source RGD Symbol Acc 727915
C09	UPFR1086692	ENSRNOT00000084933.1	Cyp27b1	ENSRNOG0000046214	cytochrome P450, family 27, subfamily b, polypeptide 1 Source RGD Symbol Acc 69192
C10	UPFR1071170	ENSRNOT00000085008.1	Cyp2a1	ENSRNOG0000020817	cytochrome P450, family 2, subfamily a, polypeptide 3 Source RGD Symbol Acc 2465
		ENSRNOT000000		ENSRNOG00	cytochrome P450, family 2, subfamily b, polypeptide 2 Source RGD Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFR1114340	047540.5	Cyp2b2	000020775	2467
C12	UPFR1076645	ENSRNOT00000 034845.5	Cyp2b3	ENSRNOG00 000033164	cytochrome P450, family 2, subfamily b, polypeptide 3 Source RGD Symbol Acc 628627
D01	UPFR1118173	ENSRNOT00000 088853.1	Cyp2c11	ENSRNOG00 000052810	cytochrome P450, subfamily 2, polypeptide 11 Source RGD Symbol Acc 2469
D02	UPFR1069068	ENSRNOT00000 054724.2	Cyp2c22	ENSRNOG00 000021924	cytochrome P450, family 2, subfamily c, polypeptide 22 Source RGD Symbol Acc 620368
D03	UPFR1037377	ENSRNOT00000 017840.4	Cyp2c23	ENSRNOG00 000013291	cytochrome P450, family 2, subfamily c, polypeptide 23 Source RGD Symbol Acc 620370
D04	UPFR1045545	ENSRNOT00000 091923.1	Cyp2b1	ENSRNOG00 000033680	cytochrome P450, family 2, subfamily b, polypeptide 1 Source RGD Symbol Acc 2466
D05	UPFR1089259	ENSRNOT00000 054742.5	Cyp2c6v1	ENSRNOG00 000024016	cytochrome P450, family 2, subfamily C, polypeptide 6, variant 1 Source RGD Symbol Acc 619934
D06	UPFR1084451	ENSRNOT00000 040325.5	Cyp2c7	ENSRNOG00 000021405	cytochrome P450, family 2, subfamily c, polypeptide 7 Source RGD Symbol Acc 620379
D07	UPFR1042427	ENSRNOT00000 071633.3	Cyp2c13	ENSRNOG00 000049464	cytochrome P450, family 2, subfamily c, polypeptide 13 Source RGD Symbol Acc 620363
D08	UPFR1086318	ENSRNOT00000 012413.4	Cyp2d2	ENSRNOG00 000008988	cytochrome P450, family 2, subfamily d, polypeptide 2 Source RGD Symbol Acc 2471
D09	UPFR1014363	ENSRNOT00000 011880.6	Cyp2d4	ENSRNOG00 000032261	cytochrome P450, family 2, subfamily d, polypeptide 4 Source RGD Symbol Acc 620640
D10	UPFR1025167	ENSRNOT00000 016883.6	Cyp2e1	ENSRNOG00 000012458	cytochrome P450, family 2, subfamily e, polypeptide 1 Source RGD Symbol Acc 2475
D11	UPFR1112133	ENSRNOT00000 068690.3	Cyp2f4	ENSRNOG00 000032805	cytochrome P450, family 2, subfamily f, polypeptide 4 Source RGD Symbol Acc 2476
D12	UPFR1103197	ENSRNOT00000 067609.3	Cyp2r1	ENSRNOG00 000011367	cytochrome P450, family 2, subfamily r, polypeptide 1 Source RGD Symbol Acc 1311866
E01	UPFR1056021	ENSRNOT00000 028177.4	Cyp2s1	ENSRNOG00 000020743	cytochrome P450, family 2, subfamily s, polypeptide 1 Source RGD Symbol Acc 1306078
E02	UPFR1076654	ENSRNOT00000 068322.1	Cyp2f1	ENSRNOG00 000028891	cytochrome P450, family 2, subfamily f, polypeptide 1 Source RGD Symbol Acc 620086
E03	UPFR1040502	ENSRNOT00000 091003.1	Cyp2w1	ENSRNOG00 000051770	cytochrome P450, family 2, subfamily w, polypeptide 1 Source RGD Symbol Acc 1305193
E04	UPFR1118437	ENSRNOT00000 001285.5	Cyp3a18	ENSRNOG00 000000969	cytochrome P450, family 3, subfamily a, polypeptide 18 Source RGD Symbol Acc 628709
E05	UPFR1067655	ENSRNOT00000 092017.1	Cyp2d1	ENSRNOG00 000029179	cytochrome P450, family 2, subfamily d, polypeptide 1 Source RGD Symbol Acc 708427
E06	UPFR1108932	ENSRNOT00000 073099.2	Cyp3a9	ENSRNOG00 000046643	cytochrome P450, family 3, subfamily a, polypeptide 9 Source RGD Symbol Acc 708392
E07	UPFR1044726	ENSRNOT00000 012681.7	Cyp4a3	ENSRNOG00 000009741	cytochrome P450, family 4, subfamily a, polypeptide 3 Source RGD Symbol Acc 631356
E08	UPFR1114805	ENSRNOT00000 012448.5	Cyp4a8	ENSRNOG00 000008842	cytochrome P450, family 4, subfamily a, polypeptide 8 Source RGD Symbol Acc 628846
E09	UPFR1083696	ENSRNOT00000 013321.6	Cyp4b1	ENSRNOG00 000055078	cytochrome P450, family 4, subfamily b, polypeptide 1 Source RGD Symbol Acc 2480
E10	UPFR1041259	ENSRNOT00000 006533.5	Cyp4f1	ENSRNOG00 000004786	cytochrome P450, family 4, subfamily f, polypeptide 1 Source RGD Symbol Acc 70926
E11	UPFR1114258	ENSRNOT00000 085328.1	Cyp4f18	ENSRNOG00 000015751	cytochrome P450, family 4, subfamily f, polypeptide 18 Source RGD Symbol Acc 1305261
E12	UPFR1071544	ENSRNOT00000 041034.4	Cyp4f4	ENSRNOG00 000032895	cytochrome P450, family 4, subfamily f, polypeptide 4 Source RGD Symbol Acc 708363
F01	UPFR1105974	ENSRNOT00000 066654.1	Cyp4f40	ENSRNOG00 000043344	cytochrome P450, family 4, subfamily f, polypeptide 40 Source RGD Symbol Acc 1559596
F02	UPFR1107297	ENSRNOT00000 066095.3	Cyp4f6	ENSRNOG00 000043233	cytochrome P450, family 4, subfamily f, polypeptide 6 Source RGD Symbol Acc 708365
F03	UPFR1121855	ENSRNOT00000 012819.4	Cyp7a1	ENSRNOG00 000009488	cytochrome P450 family 7 subfamily A member 1 Source RGD Symbol Acc 2482
F04	UPFR1113756	ENSRNOT00000 013116.6	Cyp7b1	ENSRNOG00 000009730	cytochrome P450 family 7 subfamily B member 1 Source RGD Symbol Acc 2483
F05	UPFR1037573	ENSRNOT00000 026355.5	Cyp8b1	ENSRNOG00 000019481	cytochrome P450 family 8 subfamily B member 1 Source RGD Symbol Acc 71016
F06	UPFR1086656	ENSRNOT00000 024483.4	Dhrs2	ENSRNOG00 000018177	dehydrogenase/reductase 2 Source RGD Symbol Acc 1583909
F07	UPFR1075630	ENSRNOT00000 086125.1	Dpyd	ENSRNOG00 000017105	dihydropyrimidine dehydrogenase Source RGD Symbol Acc 621218
F08	UPFR1038681	ENSRNOT00000 013324.6	Esd	ENSRNOG00 000009512	esterase D Source RGD Symbol Acc 1592114
F09	UPFR1112930	ENSRNOT00000 081551.1	Fmo1	ENSRNOG00 000034191	flavin containing monooxygenase 1 Source RGD Symbol Acc 2622
F10	UPFR1095257	ENSRNOT00000 091389.1	Fmo2	ENSRNOG00 000003510	flavin containing monooxygenase 2 Source RGD Symbol Acc 628600

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFR1106602	ENSRNOT00000004864.5	Fmo3	ENSRNOG0000003620	flavin containing monooxygenase 3 Source RGD Symbol Acc 619761
F12	UPFR1103576	ENSRNOT00000004577.6	Fmo4	ENSRNOG0000003400	flavin containing monooxygenase 4 Source RGD Symbol Acc 628601
G01	UPFR1073066	ENSRNOT00000024423.5	Fmo5	ENSRNOG0000018076	flavin containing monooxygenase 5 Source RGD Symbol Acc 628602
G02	UPFR1058600	ENSRNOT00000014134.3	Gzma	ENSRNOG0000010603	granzyme A Source RGD Symbol Acc 628640
G03	UPFR1035899	ENSRNOT00000041430.5	Gzmb	ENSRNOG0000049976	Granzyme B-like 2 Source RGD Symbol Acc 2320097
G04	UPFR1042751	ENSRNOT00000043559.4	Hsd17b10	ENSRNOG0000003049	hydroxysteroid (17-beta) dehydrogenase 10 Source RGD Symbol Acc 69231
G05	UPFR1111375	ENSRNOT00000066674.2	Maoa	ENSRNOG0000002848	monoamine oxidase A Source RGD Symbol Acc 61898
G06	UPFR1081997	ENSRNOT00000044009.5	MaoB	ENSRNOG0000029778	monoamine oxidase B Source RGD Symbol Acc 3041
G07	UPFR1053064	ENSRNOT00000010218.5	Ptgs1	ENSRNOG0000007415	prostaglandin-endoperoxide synthase 1 Source RGD Symbol Acc 3439
G08	UPFR1035449	ENSRNOT00000003567.4	Ptgs2	ENSRNOG000002525	prostaglandin-endoperoxide synthase 2 Source RGD Symbol Acc 620349
G09	UPFR1047476	ENSRNOT00000080108.1	Iffo2	ENSRNOG0000061876	aldehyde dehydrogenase 4 family, member A1 Source RGD Symbol Acc 1624206
G10	UPFR1110967	ENSRNOT00000003248.5	Uchl1	ENSRNOG0000002343	ubiquitin C-terminal hydrolase L1 Source RGD Symbol Acc 3928
G11	UPFR1077836	ENSRNOT00000012842.6	Uchl3	ENSRNOG0000009530	ubiquitin C-terminal hydrolase L3 Source RGD Symbol Acc 1561196
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.

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