

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

## Mouse Lipoprotein Signaling & Cholesterol Metabolism

Cat. no. 249955 UPMM-080ZA

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	Abca1	Abca2	Abcg1	Acaa2	Akr1d1	Angptl3	Ankra2	Apoa1	Apoa2	Apoa4	Apob	Apoc3
B	Apod	Apoe	Apof	Apol8	Cdh13	Cel	Cela3b	Cnbp	Colec12	Crp	Cxcl16	Cyb5r3
C	Cyp11a1	Cyp39a1	Cyp46a1	Cyp51	Cyp7a1	Cyp7b1	Dhcr24	Dhcr7	Ebp	Fdft1	Fdps	Hdlbp
D	Hmgcr	Hmgcs1	Hmgcs2	Idi1	Idi2	Il4	Insig1	Insig2	Lcat	Ldlr	Ldlrap1	Lep
E	Lipe	Lrp10	Lrp12	Lrp1b	Lrp6	Lrpap1	Mbtps1	Mvd	Mvk	Npc1l1	Nr0b2	Nr1h4
F	Nsdhl	Olr1	Osbpl1a	Osbpl5	Pcsk9	Pmk	Ppard	Prkaa1	Prkaa2	Prkag2	Scap	Scarf1
G	Srx17	Soat1	Soat2	Sor1	Srebf1	Srebf2	Stab1	Stab2	Stard3	Tm7sf2	Tref1	Vldlr
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	UPFM100791 3	ENSMUST00000 030010.3	Abca1	ENSMUSG00 000015243	ATP-binding cassette, sub-family A (ABC1), member 1 Source MGI Symbol Acc MGI 99607
A02	UPFM100893 3	ENSMUST00000 149385.7	Abca2	ENSMUSG00 000026944	ATP-binding cassette, sub-family A (ABC1), member 2 Source MGI Symbol Acc MGI 99606
A03	UPFM091927 1	ENSMUST00000 139013.1	Abcg1	ENSMUSG00 000024030	ATP binding cassette subfamily G member 1 Source MGI Symbol Acc MGI 107704
A04	UPFM081199 2	ENSMUST00000 041053.10	Acaa2	ENSMUSG00 000036880	acetyl-Coenzyme A acyltransferase 2 (mitochondrial 3-oxoacyl-Coenzyme A thiolase) Source MGI Symbol Acc MGI 1098623
A05	UPFM088418 4	ENSMUST00000 123648.1	Akr1d1	ENSMUSG00 000038641	aldo-keto reductase family 1, member D1 Source MGI Symbol Acc MGI 2384785
A06	UPFM099541 9	ENSMUST00000 030280.6	Angptl3	ENSMUSG00 000028553	angiotensin-like 3 Source MGI Symbol Acc MGI 1353627
A07	UPFM089926 7	ENSMUST00000 091356.10	Ankra2	ENSMUSG00 000021661	ankyrin repeat, family A (RFXANK-like), 2 Source MGI Symbol Acc MGI 1915808
A08	UPFM082788 5	ENSMUST00000 034588.8	Apoa1	ENSMUSG00 000032083	apolipoprotein A-I Source MGI Symbol Acc MGI 88049
A09	UPFM086631 2	ENSMUST00000 005824.11	Apoa2	ENSMUSG00 000005681	apolipoprotein A-II Source MGI Symbol Acc MGI 88050
A10	UPFM063211 6	ENSMUST00000 034585.6	Apoa4	ENSMUSG00 000032080	apolipoprotein A-IV Source MGI Symbol Acc MGI 88051
A11	UPFM098734 1	ENSMUST00000 171271.7	Apob	ENSMUSG00 000020609	apolipoprotein B Source MGI Symbol Acc MGI 88052
A12	UPFM096268 3	ENSMUST00000 118649.7	Apoc3	ENSMUSG00 000032081	apolipoprotein C-III Source MGI Symbol Acc MGI 88055
B01	UPFM100916 7	ENSMUST00000 115230.1	Apod	ENSMUSG00 000022548	apolipoprotein D Source MGI Symbol Acc MGI 88056
B02	UPFM092642 1	ENSMUST00000 172808.1	Apoe	ENSMUSG00 000002985	apolipoprotein E Source MGI Symbol Acc MGI 88057
B03	UPFM073626 3	ENSMUST00000 050901.3	Apof	ENSMUSG00 000047631	apolipoprotein F Source MGI Symbol Acc MGI 104539
B04	UPFM076185 2	ENSMUST00000 070911.3	Apol8	ENSMUSG00 000056656	apolipoprotein L 8 Source MGI Symbol Acc MGI 2444921
B05	UPFM072719 2	ENSMUST00000 145849.7	Cdh13	ENSMUSG00 000031841	cadherin 13 Source MGI Symbol Acc MGI 99551
B06	UPFM072981 7	ENSMUST00000 124756.1	Cel	ENSMUSG00 000026818	carboxyl ester lipase Source MGI Symbol Acc MGI 88374
B07	UPFM068328 9	ENSMUST00000 134565.1	Cela3b	ENSMUSG00 000023433	chymotrypsin-like elastase family, member 3B Source MGI Symbol Acc MGI 1915118
B08	UPFM070943 0	ENSMUST00000 113619.7	Cnbp	ENSMUSG00 000030057	cellular nucleic acid binding protein Source MGI Symbol Acc MGI 88431
B09	UPFM069370 8	ENSMUST00000 234965.1	Colec12	ENSMUSG00 000036103	collectin sub-family member 12 Source MGI Symbol Acc MGI 2152907
B10	UPFM086677 3	ENSMUST00000 038495.4	Crp	ENSMUSG00 000037942	C-reactive protein, pentraxin-related Source MGI Symbol Acc MGI 88512
B11	UPFM091690 7	ENSMUST00000 126391.1	Cxcl16	ENSMUSG00 000018920	chemokine (C-X-C motif) ligand 16 Source MGI Symbol Acc MGI 1932682
B12	UPFM093661 5	ENSMUST00000 162834.2	Cyb5r3	ENSMUSG00 000018042	cytochrome b5 reductase 3 Source MGI Symbol Acc MGI 94893
C01	UPFM100116 7	ENSMUST00000 188116.6	Cyp11a1	ENSMUSG00 000032323	cytochrome P450, family 11, subfamily a, polypeptide 1 Source MGI Symbol Acc MGI 88582
C02	UPFM100405 9	ENSMUST00000 233437.1	Cyp39a1	ENSMUSG00 000023963	cytochrome P450, family 39, subfamily a, polypeptide 1 Source MGI Symbol Acc MGI 1927096
C03	UPFM095126 9	ENSMUST00000 021684.5	Cyp46a1	ENSMUSG00 000021259	cytochrome P450, family 46, subfamily a, polypeptide 1 Source MGI Symbol Acc MGI 1341877
C04	UPFM095385 3	ENSMUST00000 129448.1	Cyp51	ENSMUSG00 000001467	cytochrome P450, family 51 Source MGI Symbol Acc MGI 106040
C05	UPFM078519 1	ENSMUST00000 147346.1	Cyp7a1	ENSMUSG00 000028240	cytochrome P450, family 7, subfamily a, polypeptide 1 Source MGI Symbol Acc MGI 106091
C06	UPFM070565 0	ENSMUST00000 035625.6	Cyp7b1	ENSMUSG00 000039519	cytochrome P450, family 7, subfamily b, polypeptide 1 Source MGI Symbol Acc MGI 104978
C07	UPFM077118 6	ENSMUST00000 047973.3	Dhcr24	ENSMUSG00 000034926	24-dehydrocholesterol reductase Source MGI Symbol Acc MGI 1922004
C08	UPFM082665 4	ENSMUST00000 141916.7	Dhcr7	ENSMUSG00 000058454	7-dehydrocholesterol reductase Source MGI Symbol Acc MGI 1298378
C09	UPFM097008 5	ENSMUST00000 033509.14	Ebp	ENSMUSG00 000031168	phenylalkylamine Ca <sup>2+</sup> antagonist (emopamil) binding protein Source MGI Symbol Acc MGI 107822
C10	UPFM074244 2	ENSMUST00000 224267.1	Fdft1	ENSMUSG00 000021273	farnesyl diphosphate farnesyl transferase 1 Source MGI Symbol Acc MGI 102706
	UPFM062393	ENSMUST00000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	2	196921.4	Fdps	000059743	farnesyl diphosphate synthetase Source MGI Symbol Acc MGI 104888
C12	UPFM096696 5	ENSMUST00000 186164.6	Hdlbp	ENSMUSG00 000034088	high density lipoprotein (HDL) binding protein Source MGI Symbol Acc MGI 99256
D01	UPFM086447 9	ENSMUST00000 168374.1	Hmgcr	ENSMUSG00 000021670	3-hydroxy-3-methylglutaryl-Coenzyme A reductase Source MGI Symbol Acc MGI 96159
D02	UPFM112650 6	ENSMUST00000 224188.1	Hmgcs1	ENSMUSG00 000093930	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1 Source MGI Symbol Acc MGI 107592
D03	UPFM062712 5	ENSMUST00000 090746.2	Hmgcs2	ENSMUSG00 000027875	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 2 Source MGI Symbol Acc MGI 101939
D04	UPFM074107 1	ENSMUST00000 176851.1	Idi1	ENSMUSG00 000058258	isopentenyl-diphosphate delta isomerase Source MGI Symbol Acc MGI 2442264
D05	UPFM065422 6	ENSMUST00000 038598.2	Idi2	ENSMUSG00 000033520	isopentenyl-diphosphate delta isomerase 2 Source MGI Symbol Acc MGI 2444315
D06	UPFM095925 1	ENSMUST00000 150568.7	Il4	ENSMUSG00 000000869	interleukin 4 Source MGI Symbol Acc MGI 96556
D07	UPFM084243 1	ENSMUST00000 059155.10	Insig1	ENSMUSG00 000045294	insulin induced gene 1 Source MGI Symbol Acc MGI 1916289
D08	UPFM075291 3	ENSMUST00000 160688.1	Insig2	ENSMUSG00 000003721	insulin induced gene 2 Source MGI Symbol Acc MGI 1920249
D09	UPFM075072 3	ENSMUST00000 038896.7	Lcat	ENSMUSG00 000035237	lecithin cholesterol acyltransferase Source MGI Symbol Acc MGI 96755
D10	UPFM073255 6	ENSMUST00000 034713.8	Ldlr	ENSMUSG00 000032193	low density lipoprotein receptor Source MGI Symbol Acc MGI 96765
D11	UPFM073020 0	ENSMUST00000 148479.1	Ldlrap1	ENSMUSG00 000037295	low density lipoprotein receptor adaptor protein 1 Source MGI Symbol Acc MGI 2140175
D12	UPFM068614 7	ENSMUST00000 169505.1	Lep	ENSMUSG00 000059201	leptin Source MGI Symbol Acc MGI 104663
E01	UPFM099108 5	ENSMUST00000 206861.1	Lipe	ENSMUSG00 000003123	lipase, hormone sensitive Source MGI Symbol Acc MGI 96790
E02	UPFM068937 2	ENSMUST00000 227760.1	Lrp10	ENSMUSG00 000022175	low-density lipoprotein receptor-related protein 10 Source MGI Symbol Acc MGI 1929480
E03	UPFM078371 3	ENSMUST00000 110305.2	Lrp12	ENSMUSG00 000022305	low density lipoprotein-related protein 12 Source MGI Symbol Acc MGI 2443132
E04	UPFM070553 3	ENSMUST00000 167270.4	Lrp1b	ENSMUSG00 000049252	low density lipoprotein-related protein 1B (deleted in tumors) Source MGI Symbol Acc MGI 2151136
E05	UPFM074162 7	ENSMUST00000 126836.3	Lrp6	ENSMUSG00 000030201	low density lipoprotein receptor-related protein 6 Source MGI Symbol Acc MGI 1298218
E06	UPFM073074 0	ENSMUST00000 030986.14	Lrpap1	ENSMUSG00 000029103	low density lipoprotein receptor-related protein associated protein 1 Source MGI Symbol Acc MGI 96829
E07	UPFM063522 9	ENSMUST00000 212685.1	Mbtps1	ENSMUSG00 000031835	membrane-bound transcription factor peptidase, site 1 Source MGI Symbol Acc MGI 1927235
E08	UPFM100293 3	ENSMUST00000 211883.1	Mvd	ENSMUSG00 000006517	mevalonate (diphospho) decarboxylase Source MGI Symbol Acc MGI 2179327
E09	UPFM063441 7	ENSMUST00000 124260.7	Mvk	ENSMUSG00 000041939	mevalonate kinase Source MGI Symbol Acc MGI 107624
E10	UPFM079093 0	ENSMUST00000 004505.2	Npc1l1	ENSMUSG00 000020447	NPC1 like intracellular cholesterol transporter 1 Source MGI Symbol Acc MGI 2685089
E11	UPFM085837 5	ENSMUST00000 042706.2	Nr0b2	ENSMUSG00 000037583	nuclear receptor subfamily 0, group B, member 2 Source MGI Symbol Acc MGI 1346344
E12	UPFM085904 0	ENSMUST00000 105296.8	Nr1h4	ENSMUSG00 000047638	nuclear receptor subfamily 1, group H, member 4 Source MGI Symbol Acc MGI 1352464
F01	UPFM090165 9	ENSMUST00000 033715.4	Nsdhl	ENSMUSG00 000031349	NAD(P) dependent steroid dehydrogenase-like Source MGI Symbol Acc MGI 1099438
F02	UPFM096086 8	ENSMUST00000 183258.7	Olr1	ENSMUSG00 000030162	oxidized low density lipoprotein (lectin-like) receptor 1 Source MGI Symbol Acc MGI 1261434
F03	UPFM070612 9	ENSMUST00000 234428.1	Osbpl1a	ENSMUSG00 000044252	oxysterol binding protein-like 1A Source MGI Symbol Acc MGI 1927551
F04	UPFM090496 1	ENSMUST00000 020411.13	Osbpl5	ENSMUSG00 000037606	oxysterol binding protein-like 5 Source MGI Symbol Acc MGI 1930265
F05	UPFM069961 9	ENSMUST00000 049507.5	Pcsk9	ENSMUSG00 000044254	proprotein convertase subtilisin/kexin type 9 Source MGI Symbol Acc MGI 2140260
F06	UPFM091330 6	ENSMUST00000 198440.4	Pmvk	ENSMUSG00 000027952	phosphomevalonate kinase Source MGI Symbol Acc MGI 1915853
F07	UPFM096380 9	ENSMUST00000 002320.15	Ppard	ENSMUSG00 000002250	peroxisome proliferator activator receptor delta Source MGI Symbol Acc MGI 101884
F08	UPFM089479 8	ENSMUST00000 228218.1	Prkaa1	ENSMUSG00 000050697	protein kinase, AMP-activated, alpha 1 catalytic subunit Source MGI Symbol Acc MGI 2145955
F09	UPFM076091 8	ENSMUST00000 030243.7	Prkaa2	ENSMUSG00 000028518	protein kinase, AMP-activated, alpha 2 catalytic subunit Source MGI Symbol Acc MGI 1336173
F10	UPFM081592 7	ENSMUST00000 114975.7	Prkag2	ENSMUSG00 000028944	protein kinase, AMP-activated, gamma 2 non-catalytic subunit Source MGI Symbol Acc MGI 1336153

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFM086373 5	ENSMUST00000 198976.4	Scap	ENSMUSG00 000032485	SREBF chaperone Source MGI Symbol Acc MGI 2135958
F12	UPFM088452 6	ENSMUST00000 118243.1	Scarf1	ENSMUSG00 000038188	scavenger receptor class F, member 1 Source MGI Symbol Acc MGI 2449455
G01	UPFM069830 6	ENSMUST00000 201535.3	Snx17	ENSMUSG00 000029146	sorting nexin 17 Source MGI Symbol Acc MGI 2387801
G02	UPFM082876 6	ENSMUST00000 191379.6	Soat1	ENSMUSG00 000026600	sterol O-acyltransferase 1 Source MGI Symbol Acc MGI 104665
G03	UPFM068240 8	ENSMUST00000 160465.1	Soat2	ENSMUSG00 000023045	sterol O-acyltransferase 2 Source MGI Symbol Acc MGI 1332226
G04	UPFM074287 5	ENSMUST00000 060989.8	Sorl1	ENSMUSG00 000049313	sortilin-related receptor, LDLR class A repeats-containing Source MGI Symbol Acc MGI 1202296
G05	UPFM063110 3	ENSMUST00000 149238.1	Sreb1	ENSMUSG00 000020538	sterol regulatory element binding transcription factor 1 Source MGI Symbol Acc MGI 107606
G06	UPFM072892 4	ENSMUST00000 230955.1	Sreb2	ENSMUSG00 000022463	sterol regulatory element binding factor 2 Source MGI Symbol Acc MGI 107585
G07	UPFM076637 6	ENSMUST00000 159208.7	Stab1	ENSMUSG00 000042286	stabilin 1 Source MGI Symbol Acc MGI 2178742
G08	UPFM069644 3	ENSMUST00000 218408.1	Stab2	ENSMUSG00 000035459	stabilin 2 Source MGI Symbol Acc MGI 2178743
G09	UPFM083965 5	ENSMUST00000 018311.4	Stard3	ENSMUSG00 000018167	START domain containing 3 Source MGI Symbol Acc MGI 1929618
G10	UPFM081146 5	ENSMUST00000 025713.11	Tm7sf2	ENSMUSG00 000024799	transmembrane 7 superfamily member 2 Source MGI Symbol Acc MGI 1920416
G11	UPFM089816 8	ENSMUST00000 190020.1	Trerf1	ENSMUSG00 000064043	transcriptional regulating factor 1 Source MGI Symbol Acc MGI 2442086
G12	UPFM088486 6	ENSMUST00000 164746.7	Vldlr	ENSMUSG00 000024924	very low density lipoprotein receptor Source MGI Symbol Acc MGI 98935
H01	UPFM113294 6	ENSMUST00000 163829.1	Actb	ENSMUSG00 000029580	actin, beta Source MGI Symbol Acc MGI 87904
H02	UPFM113294 7	ENSMUST00000 102476.4	B2m	ENSMUSG00 000060802	beta-2 microglobulin Source MGI Symbol Acc MGI 88127
H03	UPFM113294 8	ENSMUST00000 117757.8	Gapdh	ENSMUSG00 000057666	glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640
H04	UPFM113294 9	ENSMUST00000 026613.13	Gusb	ENSMUSG00 000025534	glucuronidase, beta Source MGI Symbol Acc MGI 95872
H05	UPFM113295 0	ENSMUST00000 166469.7	Hsp90ab1	ENSMUSG00 000023944	heat shock protein 90 alpha (cytosolic), class B member 1 Source MGI Symbol Acc MGI 96247
H06	UPFM112660 9	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 $\mu$ 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.