

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

## Mouse Liver Cancer

Cat. no. 249955 UPMM-133ZA

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	Adam17	Akt1	Angpt2	Bax	Bcl2	Bcl2l1	Bid	Birc2	Birc5	Casp8	Cd5	Cnd1
B	Ccnd2	Cdh1	Cdh13	Cdkn1a	Cdkn1b	Cdkn2a	Cflar	Ctnnb1	Cxcr4	Dab2ip	Dlc1	E2f1
C	Egf	Egfr	Ep300	Fadd	Fos	Fhit	Flt1	Fzd7	Gadd45b	Gstp1	Hgf	Hhip
D	Hras	Igf2	Igfbp1	Igfbp3	Irs1	Iigb1	Kdr	Lef1	Mcl1	Met	Msh2	Msh3
E	Mtdh	Myc	Nfk1	Nras	Opcml	Pdgfra	Pin1	Plen	Plgs2	Plk2	Pycard	Rac1
F	Rassf1	Rb1	Reln	Rhoa	Runx3	Sfrp2	Smad4	Smad7	Socs1	Socs3	Stat3	Tcf4
G	Tert	Tgfa	Tgfb1	Tgfb2	Tlr4	Tnfrsf10b	Tnfrsf10	Trp53	Vegfa	Wt1	Xiap	Yap1
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	UPFM063038 2	ENSMUST00000 064536.12	Adam17	ENSMUSG00 000052593	a disintegrin and metallopeptidase domain 17 Source MGI Symbol Acc MGI 1096335
A02	UPFM082786 0	ENSMUST00000 139388.2	Akt1	ENSMUSG00 000001729	thymoma viral proto-oncogene 1 Source MGI Symbol Acc MGI 87986
A03	UPFM074499 5	ENSMUST00000 170200.1	Angpt2	ENSMUSG00 000031465	angiopoietin 2 Source MGI Symbol Acc MGI 1202890
A04	UPFM090386 1	ENSMUST00000 211195.1	Bax	ENSMUSG00 000003873	BCL2-associated X protein Source MGI Symbol Acc MGI 99702
A05	UPFM063585 3	ENSMUST00000 112751.1	Bcl2	ENSMUSG00 000057329	B cell leukemia/lymphoma 2 Source MGI Symbol Acc MGI 88138
A06	UPFM066341 1	ENSMUST00000 156688.1	Bcl2l1	ENSMUSG00 000007659	BCL2-like 1 Source MGI Symbol Acc MGI 88139
A07	UPFM069030 4	ENSMUST00000 161594.1	Bid	ENSMUSG00 000004446	BH3 interacting domain death agonist Source MGI Symbol Acc MGI 108093
A08	UPFM072353 2	ENSMUST00000 074246.6	Birc2	ENSMUSG00 000057367	baculoviral IAP repeat-containing 2 Source MGI Symbol Acc MGI 1197009
A09	UPFM085491 3	ENSMUST00000 081387.10	Birc5	ENSMUSG00 000017716	baculoviral IAP repeat-containing 5 Source MGI Symbol Acc MGI 1203517
A10	UPFM067082 6	ENSMUST00000 191201.6	Casp8	ENSMUSG00 000026029	caspase 8 Source MGI Symbol Acc MGI 1261423
A11	UPFM078318 2	ENSMUST00000 035938.2	Ccl5	ENSMUSG00 000035042	chemokine (C-C motif) ligand 5 Source MGI Symbol Acc MGI 98262
A12	UPFM093346 3	ENSMUST00000 208193.1	Ccnd1	ENSMUSG00 000070348	cyclin D1 Source MGI Symbol Acc MGI 88313
B01	UPFM086144 2	ENSMUST00000 201066.1	Ccnd2	ENSMUSG00 000000184	cyclin D2 Source MGI Symbol Acc MGI 88314
B02	UPFM088317 7	ENSMUST00000 136580.1	Cdh1	ENSMUSG00 000000303	cadherin 1 Source MGI Symbol Acc MGI 88354
B03	UPFM072719 2	ENSMUST00000 145849.7	Cdh13	ENSMUSG00 000031841	cadherin 13 Source MGI Symbol Acc MGI 99551
B04	UPFM086779 1	ENSMUST00000 122348.2	Cdkn1a	ENSMUSG00 000023067	cyclin-dependent kinase inhibitor 1A (P21) Source MGI Symbol Acc MGI 104556
B05	UPFM072528 3	ENSMUST00000 204807.1	Cdkn1b	ENSMUSG00 000003031	cyclin-dependent kinase inhibitor 1B Source MGI Symbol Acc MGI 104565
B06	UPFM070277 6	ENSMUST00000 107131.1	Cdkn2a	ENSMUSG00 000044303	cyclin dependent kinase inhibitor 2A Source MGI Symbol Acc MGI 104738
B07	UPFM082486 2	ENSMUST00000 069333.7	Cflar	ENSMUSG00 000026031	CASP8 and FADD-like apoptosis regulator Source MGI Symbol Acc MGI 1336166
B08	UPFM098586 3	ENSMUST00000 154356.7	Ctnnb1	ENSMUSG00 000006932	catenin (cadherin associated protein), beta 1 Source MGI Symbol Acc MGI 88276
B09	UPFM077457 5	ENSMUST00000 052172.6	Cxcr4	ENSMUSG00 000045382	chemokine (C-X-C motif) receptor 4 Source MGI Symbol Acc MGI 109563
B10	UPFM090834 4	ENSMUST00000 112986.8	Dab2ip	ENSMUSG00 000026883	disabled 2 interacting protein Source MGI Symbol Acc MGI 1916851
B11	UPFM070919 6	ENSMUST00000 179652.1	Dlc1	ENSMUSG00 000031523	deleted in liver cancer 1 Source MGI Symbol Acc MGI 1354949
B12	UPFM066128 0	ENSMUST00000 000894.5	E2f1	ENSMUSG00 000027490	E2F transcription factor 1 Source MGI Symbol Acc MGI 101941
C01	UPFM092572 5	ENSMUST00000 199615.4	Egf	ENSMUSG00 000028017	epidermal growth factor Source MGI Symbol Acc MGI 95290
C02	UPFM080878 1	ENSMUST00000 125984.1	Egfr	ENSMUSG00 000020122	epidermal growth factor receptor Source MGI Symbol Acc MGI 95294
C03	UPFM063958 2	ENSMUST00000 185967.2	Ep300	ENSMUSG00 000055024	E1A binding protein p300 Source MGI Symbol Acc MGI 1276116
C04	UPFM075310 6	ENSMUST00000 033394.7	Fadd	ENSMUSG00 000031077	Fas (TNFRSF6)-associated via death domain Source MGI Symbol Acc MGI 109324
C05	UPFM099578 7	ENSMUST00000 235709.1	Fas	ENSMUSG00 000024778	Fas (TNF receptor superfamily member 6) Source MGI Symbol Acc MGI 95484
C06	UPFM072661 7	ENSMUST00000 179394.7	Fhit	ENSMUSG00 000060579	fragile histidine triad gene Source MGI Symbol Acc MGI 1277947
C07	UPFM071363 0	ENSMUST00000 110529.5	Ft1	ENSMUSG00 000029648	FMS-like tyrosine kinase 1 Source MGI Symbol Acc MGI 95558
C08	UPFM068124 6	ENSMUST00000 114246.3	Fzd7	ENSMUSG00 000041075	frizzled class receptor 7 Source MGI Symbol Acc MGI 108570
C09	UPFM085248 2	ENSMUST00000 220246.1	Gadd45b	ENSMUSG00 000015312	growth arrest and DNA-damage-inducible 45 beta Source MGI Symbol Acc MGI 107776
C10	UPFM078306 5	ENSMUST00000 237893.1	Gstp1	ENSMUSG00 000060803	glutathione S-transferase, pi 1 Source MGI Symbol Acc MGI 95865
	UPFM081302	ENSMUST00000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	0	199900.1	Hgf	000028864	hepatocyte growth factor Source MGI Symbol Acc MGI 96079
C12	UPFM063884 8	ENSMUST00000 079038.3	Hhip	ENSMUSG00 000064325	Hedgehog-interacting protein Source MGI Symbol Acc MGI 1341847
D01	UPFM099623 4	ENSMUST00000 124314.2	Hras	ENSMUSG00 000025499	Harvey rat sarcoma virus oncogene Source MGI Symbol Acc MGI 96224
D02	UPFM080008 1	ENSMUST00000 000033.11	Igf2	ENSMUSG00 000048583	insulin-like growth factor 2 Source MGI Symbol Acc MGI 96434
D03	UPFM064388 5	ENSMUST00000 020704.7	Igfbp1	ENSMUSG00 000020429	insulin-like growth factor binding protein 1 Source MGI Symbol Acc MGI 96436
D04	UPFM096898 6	ENSMUST00000 020702.10	Igfbp3	ENSMUSG00 000020427	insulin-like growth factor binding protein 3 Source MGI Symbol Acc MGI 96438
D05	UPFM068140 3	ENSMUST00000 069799.2	Irs1	ENSMUSG00 000055980	insulin receptor substrate 1 Source MGI Symbol Acc MGI 99454
D06	UPFM093465 6	ENSMUST00000 124826.1	Itgb1	ENSMUSG00 000025809	integrin beta 1 (fibronectin receptor beta) Source MGI Symbol Acc MGI 96610
D07	UPFM078164 3	ENSMUST00000 113516.1	Kdr	ENSMUSG00 000062960	kinase insert domain protein receptor Source MGI Symbol Acc MGI 96683
D08	UPFM080218 9	ENSMUST00000 136147.7	Lef1	ENSMUSG00 000027985	lymphoid enhancer binding factor 1 Source MGI Symbol Acc MGI 96770
D09	UPFM071261 7	ENSMUST00000 178686.1	Mcl1	ENSMUSG00 000038612	myeloid cell leukemia sequence 1 Source MGI Symbol Acc MGI 101769
D10	UPFM081794 6	ENSMUST00000 115443.7	Met	ENSMUSG00 000009376	met proto-oncogene Source MGI Symbol Acc MGI 96969
D11	UPFM098287 7	ENSMUST00000 173097.7	Msh2	ENSMUSG00 000024151	mutS homolog 2 Source MGI Symbol Acc MGI 101816
D12	UPFM090784 2	ENSMUST00000 191509.6	Msh3	ENSMUSG00 000014850	mutS homolog 3 Source MGI Symbol Acc MGI 109519
E01	UPFM079564 3	ENSMUST00000 170553.7	Mtdh	ENSMUSG00 000022255	metadherin Source MGI Symbol Acc MGI 1914404
E02	UPFM081421 4	ENSMUST00000 161976.7	Myc	ENSMUSG00 000022346	myelocytomatosis oncogene Source MGI Symbol Acc MGI 97250
E03	UPFM098758 7	ENSMUST00000 029812.13	Nfkb1	ENSMUSG00 000028163	nuclear factor of kappa light polypeptide gene enhancer in B cells 1, p105 Source MGI Symbol Acc MGI 97312
E04	UPFM074207 5	ENSMUST00000 197678.4	Nras	ENSMUSG00 000027852	neuroblastoma ras oncogene Source MGI Symbol Acc MGI 97376
E05	UPFM064359 1	ENSMUST00000 126673.1	Opcml	ENSMUSG00 000062257	opioid binding protein/cell adhesion molecule-like Source MGI Symbol Acc MGI 97397
E06	UPFM073646 8	ENSMUST00000 202186.3	Pdgfra	ENSMUSG00 000029231	platelet derived growth factor receptor, alpha polypeptide Source MGI Symbol Acc MGI 97530
E07	UPFM067644 5	ENSMUST00000 034689.7	Pin1	ENSMUSG00 000032171	protein (peptidyl-prolyl cis/trans isomerase) NIMA-interacting 1 Source MGI Symbol Acc MGI 1346036
E08	UPFM089742 6	ENSMUST00000 013807.7	Pten	ENSMUSG00 000013663	phosphatase and tensin homolog Source MGI Symbol Acc MGI 109583
E09	UPFM100449 2	ENSMUST00000 190784.1	Ptgs2	ENSMUSG00 000032487	prostaglandin-endoperoxide synthase 2 Source MGI Symbol Acc MGI 97798
E10	UPFM085603 9	ENSMUST00000 226466.1	Plk2	ENSMUSG00 000022607	PTK2 protein tyrosine kinase 2 Source MGI Symbol Acc MGI 95481
E11	UPFM084237 4	ENSMUST00000 033056.4	Pycard	ENSMUSG00 000030793	PYD and CARD domain containing Source MGI Symbol Acc MGI 1931465
E12	UPFM096241 9	ENSMUST00000 131513.1	Rac1	ENSMUSG00 000001847	Rac family small GTPase 1 Source MGI Symbol Acc MGI 97845
F01	UPFM080094 7	ENSMUST00000 093786.8	Rassf1	ENSMUSG00 000010067	Ras association (RalGDS/AF-6) domain family member 1 Source MGI Symbol Acc MGI 1928386
F02	UPFM077278 8	ENSMUST00000 022701.6	Rb1	ENSMUSG00 000022105	RB transcriptional corepressor 1 Source MGI Symbol Acc MGI 97874
F03	UPFM085888 7	ENSMUST00000 162876.1	Reln	ENSMUSG00 000042453	reelin Source MGI Symbol Acc MGI 103022
F04	UPFM080926 1	ENSMUST00000 007959.13	Rhoa	ENSMUSG00 000007815	ras homolog family member A Source MGI Symbol Acc MGI 1096342
F05	UPFM067733 3	ENSMUST00000 119564.1	Runx3	ENSMUSG00 000070691	runt related transcription factor 3 Source MGI Symbol Acc MGI 102672
F06	UPFM088753 1	ENSMUST00000 029625.7	Sfrp2	ENSMUSG00 000027996	secreted frizzled-related protein 2 Source MGI Symbol Acc MGI 108078
F07	UPFM098632 8	ENSMUST00000 114939.1	Smad4	ENSMUSG00 000024515	SMAD family member 4 Source MGI Symbol Acc MGI 894293
F08	UPFM073298 1	ENSMUST00000 174843.7	Smad7	ENSMUSG00 000025880	SMAD family member 7 Source MGI Symbol Acc MGI 1100518
F09	UPFM065177 1	ENSMUST00000 229866.1	Socs1	ENSMUSG00 000038037	suppressor of cytokine signaling 1 Source MGI Symbol Acc MGI 1354910
F10	UPFM069413 9	ENSMUST00000 054002.3	Socs3	ENSMUSG00 000053113	suppressor of cytokine signaling 3 Source MGI Symbol Acc MGI 1201791

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFM098484 5	ENSMUST00000 092671.11	Stat3	ENSMUSG00 000004040	signal transducer and activator of transcription 3 Source MGI Symbol Acc MGI 103038
F12	UPFM087881 4	ENSMUST00000 201157.1	Tcf4	ENSMUSG00 000053477	transcription factor 4 Source MGI Symbol Acc MGI 98506
G01	UPFM088336 8	ENSMUST00000 022104.8	Tert	ENSMUSG00 000021611	telomerase reverse transcriptase Source MGI Symbol Acc MGI 1202709
G02	UPFM083464 2	ENSMUST00000 192058.3	Tgfa	ENSMUSG00 000029999	transforming growth factor alpha Source MGI Symbol Acc MGI 98724
G03	UPFM066688 0	ENSMUST00000 171757.1	Tgfb1	ENSMUSG00 00002603	transforming growth factor, beta 1 Source MGI Symbol Acc MGI 98725
G04	UPFM117296 4	ENSMUST00000 061101.11	Tgfbr2	ENSMUSG00 000032440	transforming growth factor, beta receptor II Source MGI Symbol Acc MGI 98729
G05	UPFM075034 5	ENSMUST00000 107365.2	Tlr4	ENSMUSG00 000039005	toll-like receptor 4 Source MGI Symbol Acc MGI 96824
G06	UPFM064695 8	ENSMUST00000 022663.6	Tnfrsf10b	ENSMUSG00 000022074	tumor necrosis factor receptor superfamily, member 10b Source MGI Symbol Acc MGI 1341090
G07	UPFM068209 9	ENSMUST00000 174840.1	Tnfsf10	ENSMUSG00 000039304	tumor necrosis factor (ligand) superfamily, member 10 Source MGI Symbol Acc MGI 107414
G08	UPFM066913 3	ENSMUST00000 171247.7	Trp53	ENSMUSG00 000059552	transformation related protein 53 Source MGI Symbol Acc MGI 98834
G09	UPFM117296 6	ENSMUST00000 214739.1	Vegfa	ENSMUSG00 000023951	vascular endothelial growth factor A Source MGI Symbol Acc MGI 103178
G10	UPFM100747 1	ENSMUST00000 111098.7	Wt1	ENSMUSG00 000016458	Wilms tumor 1 homolog Source MGI Symbol Acc MGI 98968
G11	UPFM083576 8	ENSMUST00000 145065.1	Xiap	ENSMUSG00 000025860	X-linked inhibitor of apoptosis Source MGI Symbol Acc MGI 107572
G12	UPFM100930 3	ENSMUST00000 174604.7	Yap1	ENSMUSG00 000053110	yes-associated protein 1 Source MGI Symbol Acc MGI 103262
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.

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