

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

## Mouse Hedgehog Signaling Pathway

Cat. no. 249955 UPMM-078ZA

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	Bcl2	Bmp2	Bmp4	Bmp5	Bmp6	Bmp7	Bmp8a	Bmp8b	Boc	Birc	Cdon	Csnk1a1
B	Csnk1e	Ctnnb1	Dhh	Disp1	Disp2	ErbB4	Fat4	Fbxw11	Fgf9	Fgfr3	Fkbp8	Foxe1
C	Frdm6	Gas1	Gli1	Gli2	Gli3	Grem1	Gsk3b	Hhat	Hhip	Ihh	Kctd11	Lats1
D	Lats2	Lrp2	Mapk1	Mob1b	Mtss1	Nf2	Npc1	Numb	Otx2	Prkaca	Prkacb	Ptch1
E	Ptch2	Disp3	Ptch3	Rab23	Runx2	Sfrp1	Shh	Shox2	Smo	Stk3	Stk36	Sufu
F	Trp53	Vegfa	Wif1	Wnt1	Wnt10a	Wnt10b	Wnt11	Wnt16	Wnt2	Wnt2b	Wnt3	Wnt3a
G	Wnt4	Wnt5a	Wnt5b	Wnt6	Wnt7a	Wnt7b	Wnt8a	Wnt8b	Wnt9a	Wnt9b	Zic1	Zic2
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	UPFM0635853	ENSMUST00000112751.1	Bcl2	ENSMUSG0000057329	B cell leukemia/lymphoma 2 Source MGI Symbol Acc MGI 88138
A02	UPFM1172945	ENSMUST00000028836.6	Bmp2	ENSMUSG0000027358	bone morphogenetic protein 2 Source MGI Symbol Acc MGI 88177
A03	UPFM0974727	ENSMUST00000100676.2	Bmp4	ENSMUSG0000021835	bone morphogenetic protein 4 Source MGI Symbol Acc MGI 88180
A04	UPFM0879093	ENSMUST00000012281.7	Bmp5	ENSMUSG0000032179	bone morphogenetic protein 5 Source MGI Symbol Acc MGI 88181
A05	UPFM0880898	ENSMUST00000171970.2	Bmp6	ENSMUSG0000039004	bone morphogenetic protein 6 Source MGI Symbol Acc MGI 88182
A06	UPFM0930356	ENSMUST00000009143.7	Bmp7	ENSMUSG0000008999	bone morphogenetic protein 7 Source MGI Symbol Acc MGI 103302
A07	UPFM0791806	ENSMUST00000102641.9	Bmp8a	ENSMUSG00000032726	bone morphogenetic protein 8a Source MGI Symbol Acc MGI 104515
A08	UPFM0999293	ENSMUST00000002457.1	Bmp8b	ENSMUSG0000002384	bone morphogenetic protein 8b Source MGI Symbol Acc MGI 107335
A09	UPFM1009436	ENSMUST00000114634.2	Boc	ENSMUSG0000022687	biregional cell adhesion molecule-related/down-regulated by oncogenes (Cdon) binding protein Source MGI Symbol Acc MGI 2151153
A10	UPFM1005139	ENSMUST00000224478.1	Btrc	ENSMUSG0000025217	beta-transducin repeat containing protein Source MGI Symbol Acc MGI 1338871
A11	UPFM0838193	ENSMUST00000154652.7	Cdon	ENSMUSG0000038119	cell adhesion molecule-related/down-regulated by oncogenes Source MGI Symbol Acc MGI 1926387
A12	UPFM0672502	ENSMUST00000165721.7	Csnk1a1	ENSMUSG0000024576	casein kinase 1, alpha 1 Source MGI Symbol Acc MGI 1934950
B01	UPFM0980652	ENSMUST00000117786.7	Csnk1e	ENSMUSG0000022433	casein kinase 1, epsilon Source MGI Symbol Acc MGI 1351660
B02	UPFM0985863	ENSMUST00000154356.7	Ctnnb1	ENSMUSG0000006932	catenin (cadherin associated protein), beta 1 Source MGI Symbol Acc MGI 88276
B03	UPFM0683861	ENSMUST00000229775.1	Dhh	ENSMUSG0000023000	desert hedgehog Source MGI Symbol Acc MGI 94891
B04	UPFM0916644	ENSMUST00000171366.6	Disp1	ENSMUSG0000030768	dispatched RND transporter family member 1 Source MGI Symbol Acc MGI 1916147
B05	UPFM0823099	ENSMUST00000110846.7	Disp2	ENSMUSG0000040035	dispatched RND transporter family member 2 Source MGI Symbol Acc MGI 2388733
B06	UPFM0980984	ENSMUST00000126682.1	ErbB4	ENSMUSG0000062209	erb-b2 receptor tyrosine kinase 4 Source MGI Symbol Acc MGI 104771
B07	UPFM0763325	ENSMUST00000129182.1	Fat4	ENSMUSG0000046743	FAT atypical cadherin 4 Source MGI Symbol Acc MGI 3045256
B08	UPFM0784035	ENSMUST00000093205.12	Fbxw11	ENSMUSG0000020271	F-box and WD-40 domain protein 11 Source MGI Symbol Acc MGI 2144023
B09	UPFM0903253	ENSMUST00000074654.11	Fgf9	ENSMUSG0000021974	fibroblast growth factor 9 Source MGI Symbol Acc MGI 104723
B10	UPFM0981437	ENSMUST00000202791.2	Fgfr3	ENSMUSG0000054252	fibroblast growth factor receptor 3 Source MGI Symbol Acc MGI 95524
B11	UPFM0724854	ENSMUST00000119353.8	Fkbp8	ENSMUSG0000019428	FK506 binding protein 8 Source MGI Symbol Acc MGI 1341070
B12	UPFM1008315	ENSMUST00000095097.2	Foxe1	ENSMUSG0000070990	forkhead box E1 Source MGI Symbol Acc MGI 1353500
C01	UPFM0714829	ENSMUST00000222045.1	FrmD6	ENSMUSG0000048285	FERM domain containing 6 Source MGI Symbol Acc MGI 2442579
C02	UPFM0882573	ENSMUST00000223933.1	Gas1	ENSMUSG0000052957	growth arrest specific 1 Source MGI Symbol Acc MGI 95655
C03	UPFM0963642	ENSMUST00000218236.1	Gli1	ENSMUSG0000025407	GLI-Kruppel family member GLI1 Source MGI Symbol Acc MGI 95727
C04	UPFM0684655	ENSMUST00000161056.7	Gli2	ENSMUSG0000048402	GLI-Kruppel family member GLI2 Source MGI Symbol Acc MGI 95728
C05	UPFM0972832	ENSMUST00000141194.7	Gli3	ENSMUSG0000021318	GLI-Kruppel family member GLI3 Source MGI Symbol Acc MGI 95729
C06	UPFM0635704	ENSMUST00000099575.3	Grem1	ENSMUSG0000074934	gremlin 1, DAN family BMP antagonist Source MGI Symbol Acc MGI 1344337
C07	UPFM0986877	ENSMUST00000114750.1	Gsk3b	ENSMUSG0000022812	glycogen synthase kinase 3 beta Source MGI Symbol Acc MGI 1861437
C08	UPFM0677541	ENSMUST00000128619.7	Hhat	ENSMUSG0000037375	hedgehog acyltransferase Source MGI Symbol Acc MGI 2444681
C09	UPFM0638848	ENSMUST00000079038.3	Hhip	ENSMUSG0000064325	Hedgehog-interacting protein Source MGI Symbol Acc MGI 1341847
C10	UPFM0641535	ENSMUST00000189364.1	lh	ENSMUSG0000006538	Indian hedgehog Source MGI Symbol Acc MGI 96533
	UPFM067084	ENSMUST00000		ENSMUSG00	potassium channel tetramerisation domain containing 11 Source MGI Symbol

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	2	05055.4	Kctd11	000046731	Acc MGI 2448712
C12	UPFM085225 3	ENSMUST00000 165952.8	Lats1	ENSMUSG00 000040021	large tumor suppressor Source MGI Symbol Acc MGI 1333883
D01	UPFM100033 6	ENSMUST00000 077981.6	Lats2	ENSMUSG00 000021959	large tumor suppressor 2 Source MGI Symbol Acc MGI 1354386
D02	UPFM069302 8	ENSMUST00000 100051.8	Lrp2	ENSMUSG00 000027070	low density lipoprotein receptor-related protein 2 Source MGI Symbol Acc MGI 95794
D03	UPFM066625 9	ENSMUST00000 232611.1	Mapk1	ENSMUSG00 000063358	mitogen-activated protein kinase 1 Source MGI Symbol Acc MGI 1346858
D04	UPFM073687 5	ENSMUST00000 125171.1	Mob1b	ENSMUSG00 000006262	MOB kinase activator 1B Source MGI Symbol Acc MGI 1915723
D05	UPFM071325 7	ENSMUST00000 226976.1	Mtss1	ENSMUSG00 000022353	metastasis suppressor 1 Source MGI Symbol Acc MGI 2384818
D06	UPFM100453 4	ENSMUST00000 109908.7	Nf2	ENSMUSG00 000009073	neurofibromin 2 Source MGI Symbol Acc MGI 97307
D07	UPFM090186 4	ENSMUST00000 025279.5	Npc1	ENSMUSG00 000024413	NPC intracellular cholesterol transporter 1 Source MGI Symbol Acc MGI 1097712
D08	UPFM068851 6	ENSMUST00000 135962.7	Numb	ENSMUSG00 000021224	NUMB endocytic adaptor protein Source MGI Symbol Acc MGI 107423
D09	UPFM082075 3	ENSMUST00000 144465.7	Otx2	ENSMUSG00 000021848	orthodenticle homeobox 2 Source MGI Symbol Acc MGI 97451
D10	UPFM091850 5	ENSMUST00000 211558.1	Prkaca	ENSMUSG00 000005469	protein kinase, cAMP dependent, catalytic, alpha Source MGI Symbol Acc MGI 97592
D11	UPFM077653 7	ENSMUST00000 197616.1	Prkacb	ENSMUSG00 000005034	protein kinase, cAMP dependent, catalytic, beta Source MGI Symbol Acc MGI 97594
D12	UPFM074012 1	ENSMUST00000 194663.5	Ptch1	ENSMUSG00 000021466	patched 1 Source MGI Symbol Acc MGI 105373
E01	UPFM072232 6	ENSMUST00000 144620.7	Ptch2	ENSMUSG00 000028681	patched 2 Source MGI Symbol Acc MGI 1095405
E02	UPFM083175 1	ENSMUST00000 143851.1	Disp3	ENSMUSG00 000041544	dispatched RND transporter family member 3 Source MGI Symbol Acc MGI 2444403
E03	UPFM098967 1	ENSMUST00000 036690.6	Ptchd3	ENSMUSG00 000039198	patched domain containing 3 Source MGI Symbol Acc MGI 1921925
E04	UPFM101061 9	ENSMUST00000 135330.7	Rab23	ENSMUSG00 000004768	RAB23, member RAS oncogene family Source MGI Symbol Acc MGI 99833
E05	UPFM067421 7	ENSMUST00000 113571.9	Runx2	ENSMUSG00 000039153	runt related transcription factor 2 Source MGI Symbol Acc MGI 99829
E06	UPFM083115 9	ENSMUST00000 033952.7	Sfrp1	ENSMUSG00 000031548	secreted frizzled-related protein 1 Source MGI Symbol Acc MGI 892014
E07	UPFM073707 0	ENSMUST00000 002708.4	Shh	ENSMUSG00 000002633	sonic hedgehog Source MGI Symbol Acc MGI 98297
E08	UPFM086320 7	ENSMUST00000 029422.13	Shox2	ENSMUSG00 000027833	short stature homeobox 2 Source MGI Symbol Acc MGI 1201673
E09	UPFM100963 4	ENSMUST00000 001812.4	Smo	ENSMUSG00 000001761	smoothened, frizzled class receptor Source MGI Symbol Acc MGI 108075
E10	UPFM075120 0	ENSMUST00000 128425.1	Stk3	ENSMUSG00 000022329	serine/threonine kinase 3 Source MGI Symbol Acc MGI 1928487
E11	UPFM091599 8	ENSMUST00000 113694.7	Stk36	ENSMUSG00 000032276	serine/threonine kinase 36 Source MGI Symbol Acc MGI 1920831
E12	UPFM063733 8	ENSMUST00000 111867.8	Sufu	ENSMUSG00 000025231	SUFU negative regulator of hedgehog signaling Source MGI Symbol Acc MGI 1345643
F01	UPFM066913 3	ENSMUST00000 171247.7	Trp53	ENSMUSG00 000059552	transformation related protein 53 Source MGI Symbol Acc MGI 98834
F02	UPFM117296 6	ENSMUST00000 214739.1	Vegfa	ENSMUSG00 000023951	vascular endothelial growth factor A Source MGI Symbol Acc MGI 103178
F03	UPFM081548 4	ENSMUST00000 145691.1	Wif1	ENSMUSG00 000020218	Wnt inhibitory factor 1 Source MGI Symbol Acc MGI 1344332
F04	UPFM069215 7	ENSMUST00000 023734.7	Wnt1	ENSMUSG00 000022997	wingless-type MMTV integration site family, member 1 Source MGI Symbol Acc MGI 98953
F05	UPFM100588 6	ENSMUST00000 187238.1	Wnt10a	ENSMUSG00 000026167	wingless-type MMTV integration site family, member 10A Source MGI Symbol Acc MGI 108071
F06	UPFM093570 2	ENSMUST00000 226846.1	Wnt10b	ENSMUSG00 000022996	wingless-type MMTV integration site family, member 10B Source MGI Symbol Acc MGI 108061
F07	UPFM074653 5	ENSMUST00000 165240.1	Wnt11	ENSMUSG00 000015957	wingless-type MMTV integration site family, member 11 Source MGI Symbol Acc MGI 101948
F08	UPFM065954 4	ENSMUST00000 148639.1	Wnt16	ENSMUSG00 000029671	wingless-type MMTV integration site family, member 16 Source MGI Symbol Acc MGI 2136018
F09	UPFM079455 2	ENSMUST00000 010941.5	Wnt2	ENSMUSG00 000010797	wingless-type MMTV integration site family, member 2 Source MGI Symbol Acc MGI 98954
F10	UPFM082888 9	ENSMUST00000 029429.5	Wnt2b	ENSMUSG00 000027840	wingless-type MMTV integration site family, member 2B Source MGI Symbol Acc MGI 1261834

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFM085703 9	ENSMUST00000 000127.5	Wnt3	ENSMUSG00 000000125	wingless-type MMTV integration site family, member 3 Source MGI Symbol Acc MGI 98955
F12	UPFM077659 1	ENSMUST00000 010044.7	Wnt3a	ENSMUSG00 000009900	wingless-type MMTV integration site family, member 3A Source MGI Symbol Acc MGI 98956
G01	UPFM083063 7	ENSMUST00000 045747.4	Wnt4	ENSMUSG00 000036856	wingless-type MMTV integration site family, member 4 Source MGI Symbol Acc MGI 98957
G02	UPFM099069 5	ENSMUST00000 063465.11	Wnt5a	ENSMUSG00 000021994	wingless-type MMTV integration site family, member 5A Source MGI Symbol Acc MGI 98958
G03	UPFM065525 5	ENSMUST00000 117171.7	Wnt5b	ENSMUSG00 000030170	wingless-type MMTV integration site family, member 5B Source MGI Symbol Acc MGI 98959
G04	UPFM095936 8	ENSMUST00000 189544.1	Wnt6	ENSMUSG00 000033227	wingless-type MMTV integration site family, member 6 Source MGI Symbol Acc MGI 98960
G05	UPFM084122 5	ENSMUST00000 032180.6	Wnt7a	ENSMUSG00 000030093	wingless-type MMTV integration site family, member 7A Source MGI Symbol Acc MGI 98961
G06	UPFM068434 7	ENSMUST00000 023015.14	Wnt7b	ENSMUSG00 000022382	wingless-type MMTV integration site family, member 7B Source MGI Symbol Acc MGI 98962
G07	UPFM068735 8	ENSMUST00000 012426.2	Wnt8a	ENSMUSG00 000012282	wingless-type MMTV integration site family, member 8A Source MGI Symbol Acc MGI 107924
G08	UPFM072985 1	ENSMUST00000 041163.4	Wnt8b	ENSMUSG00 000036961	wingless-type MMTV integration site family, member 8B Source MGI Symbol Acc MGI 109485
G09	UPFM084073 6	ENSMUST00000 108783.3	Wnt9a	ENSMUSG00 000000126	wingless-type MMTV integration site family, member 9A Source MGI Symbol Acc MGI 2446084
G10	UPFM093479 9	ENSMUST00000 018630.2	Wnt9b	ENSMUSG00 000018486	wingless-type MMTV integration site family, member 9B Source MGI Symbol Acc MGI 1197020
G11	UPFM071973 2	ENSMUST00000 034927.12	Zic1	ENSMUSG00 000032368	zinc finger protein of the cerebellum 1 Source MGI Symbol Acc MGI 106683
G12	UPFM069338 7	ENSMUST00000 075888.5	Zic2	ENSMUSG00 000061524	zinc finger protein of the cerebellum 2 Source MGI Symbol Acc MGI 106679
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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