

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

## Mouse Glucose Metabolism

Cat. no. 249955 UPMM-006ZA

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	Acly	Aco1	Aco2	Agl	Aldoa	Aldob	Aldoc	Bpgm	Cs	Dlat	Dld	Dlat
B	Eno1	Eno2	Eno3	Fbp1	Fbp2	Fh1	G6pc	G6pc3	G6pdx	Galm	Gapdhs	Gbe1
C	Gck	Gpi1	Gsk3a	Gsk3b	Gys1	Gys2	H6pd	Hk2	Hk3	Idh1	Idh2	Idh3a
D	Idh3b	Idh3g	Mdh1	Mdh1b	Mdh2	Ogdh	Pck1	Pck2	Pcx	Pdha1	Pdha2	Pdk1
E	Pdk2	Pdk3	Pdk4	Pdp2	Pdpr	Pfkfb3	Pgam2	Pgk1	Pgk2	Pgm2	Pgm1	Pgm3
F	Phka1	Phkb	Phkg1	Phkg2	Pklr	Prps1	Prps111	Prps2	Pygl	Pygm	Rbks	Rpe
G	Rpia	Sdha	Sdhb	Sdhc	Sdhd	Sucfa2	Sucfg1	Sucfg2	Taldo1	Tkt	Tpi1	Ugp2
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	UPFM097540 5	ENSMUST00000 007131.15	Acly	ENSMUSG00 000020917	ATP citrate lyase Source MGI Symbol Acc MGI 103251
A02	UPFM066162 5	ENSMUST00000 102973.3	Aco1	ENSMUSG00 000028405	aconitase 1 Source MGI Symbol Acc MGI 87879
A03	UPFM063214 4	ENSMUST00000 144324.1	Aco2	ENSMUSG00 000022477	aconitase 2, mitochondrial Source MGI Symbol Acc MGI 87880
A04	UPFM089706 1	ENSMUST00000 162792.7	AgI	ENSMUSG00 000033400	amylase-1,6-glycosidase, 4-alpha-glycanotransferase Source MGI Symbol Acc MGI 1924809
A05	UPFM071078 0	ENSMUST00000 106348.7	Aldoa	ENSMUSG00 000030695	aldolase A, fructose-bisphosphate Source MGI Symbol Acc MGI 87994
A06	UPFM066703 6	ENSMUST00000 029987.9	Aldob	ENSMUSG00 000028307	aldolase B, fructose-bisphosphate Source MGI Symbol Acc MGI 87995
A07	UPFM095786 5	ENSMUST00000 017534.14	Aldoc	ENSMUSG00 000017390	aldolase C, fructose-bisphosphate Source MGI Symbol Acc MGI 101863
A08	UPFM074028 1	ENSMUST00000 139067.1	Bpgm	ENSMUSG00 000038871	2,3-bisphosphoglycerate mutase Source MGI Symbol Acc MGI 1098242
A09	UPFM067430 5	ENSMUST00000 005826.8	Cs	ENSMUSG00 000005683	citrate synthase Source MGI Symbol Acc MGI 88529
A10	UPFM096387 7	ENSMUST00000 132455.1	Dlat	ENSMUSG00 000000168	dihydrolipoamide S-acetyltransferase (E2 component of pyruvate dehydrogenase complex) Source MGI Symbol Acc MGI 2385311
A11	UPFM062966 1	ENSMUST00000 218624.1	Dld	ENSMUSG00 000020664	dihydrolipoamide dehydrogenase Source MGI Symbol Acc MGI 107450
A12	UPFM064409 6	ENSMUST00000 220633.1	Dlst	ENSMUSG00 000004789	dihydrolipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex) Source MGI Symbol Acc MGI 1926170
B01	UPFM076721 3	ENSMUST00000 141931.1	Eno1	ENSMUSG00 000063524	enolase 1, alpha non-neuron Source MGI Symbol Acc MGI 95393
B02	UPFM064944 8	ENSMUST00000 112476.7	Eno2	ENSMUSG00 000004267	enolase 2, gamma neuronal Source MGI Symbol Acc MGI 95394
B03	UPFM068325 3	ENSMUST00000 170716.7	Eno3	ENSMUSG00 000060600	enolase 3, beta muscle Source MGI Symbol Acc MGI 95395
B04	UPFM072819 2	ENSMUST00000 150013.1	Fbp1	ENSMUSG00 000069805	fructose bisphosphatase 1 Source MGI Symbol Acc MGI 95492
B05	UPFM067273 8	ENSMUST00000 021907.8	Fbp2	ENSMUSG00 000021456	fructose bisphosphatase 2 Source MGI Symbol Acc MGI 95491
B06	UPFM092602 0	ENSMUST00000 176740.1	Fh1	ENSMUSG00 000026526	fumarate hydratase 1 Source MGI Symbol Acc MGI 95530
B07	UPFM069116 4	ENSMUST00000 019469.2	G6pc	ENSMUSG00 000078650	glucose-6-phosphatase, catalytic Source MGI Symbol Acc MGI 95607
B08	UPFM092545 3	ENSMUST00000 139995.1	G6pc3	ENSMUSG00 000034793	glucose 6 phosphatase, catalytic, 3 Source MGI Symbol Acc MGI 1915651
B09	UPFM084493 2	ENSMUST00000 143521.1	G6pdx	ENSMUSG00 000031400	glucose-6-phosphate dehydrogenase X-linked Source MGI Symbol Acc MGI 105979
B10	UPFM064965 2	ENSMUST00000 039205.10	Galm	ENSMUSG00 000035473	galactose mutarotase Source MGI Symbol Acc MGI 2442420
B11	UPFM091540 9	ENSMUST00000 182634.7	Gapdhs	ENSMUSG00 000061099	glyceraldehyde-3-phosphate dehydrogenase, spermatogenic Source MGI Symbol Acc MGI 95653
B12	UPFM076976 3	ENSMUST00000 163832.7	Gbe1	ENSMUSG00 000022707	glucan (1,4-alpha-), branching enzyme 1 Source MGI Symbol Acc MGI 1921435
C01	UPFM080014 1	ENSMUST00000 109823.8	Gck	ENSMUSG00 000041798	glucokinase Source MGI Symbol Acc MGI 1270854
C02	UPFM070892 8	ENSMUST00000 205865.1	Gpi1	ENSMUSG00 000036427	glucose phosphate isomerase 1 Source MGI Symbol Acc MGI 95797
C03	UPFM096169 6	ENSMUST00000 206654.1	Gsk3a	ENSMUSG00 000057177	glycogen synthase kinase 3 alpha Source MGI Symbol Acc MGI 2152453
C04	UPFM098687 7	ENSMUST00000 114750.1	Gsk3b	ENSMUSG00 000022812	glycogen synthase kinase 3 beta Source MGI Symbol Acc MGI 1861437
C05	UPFM065517 4	ENSMUST00000 003964.16	Gys1	ENSMUSG00 000003865	glycogen synthase 1, muscle Source MGI Symbol Acc MGI 101805
C06	UPFM075680 8	ENSMUST00000 032371.7	Gys2	ENSMUSG00 000030244	glycogen synthase 2 Source MGI Symbol Acc MGI 2385254
C07	UPFM079051 2	ENSMUST00000 030830.3	H6pd	ENSMUSG00 000028980	hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase) Source MGI Symbol Acc MGI 2140356
C08	UPFM074256 7	ENSMUST00000 000642.10	Hk2	ENSMUSG00 000000628	hexokinase 2 Source MGI Symbol Acc MGI 1315197
C09	UPFM087039 2	ENSMUST00000 132309.7	Hk3	ENSMUSG00 000025877	hexokinase 3 Source MGI Symbol Acc MGI 2670962
C10	UPFM082820 8	ENSMUST00000 188109.6	ldh1	ENSMUSG00 000025950	isocitrate dehydrogenase 1 (NADP+), soluble Source MGI Symbol Acc MGI 96413
	UPFM066690	ENSMUST00000		ENSMUSG00	isocitrate dehydrogenase 2 (NADP+), mitochondrial Source MGI Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	1	134328.7	ldh2	000030541	MGI 96414
C12	UPFM081562 2	ENSMUST00000 215273.1	ldh3a	ENSMUSG00 000032279	isocitrate dehydrogenase 3 (NAD+) alpha Source MGI Symbol Acc MGI 1915084
D01	UPFM094301 2	ENSMUST00000 028892.10	ldh3b	ENSMUSG00 000027406	isocitrate dehydrogenase 3 (NAD+) beta Source MGI Symbol Acc MGI 2158650
D02	UPFM100425 4	ENSMUST00000 145341.1	ldh3g	ENSMUSG00 000002010	isocitrate dehydrogenase 3 (NAD+), gamma Source MGI Symbol Acc MGI 1099463
D03	UPFM099381 6	ENSMUST00000 144978.1	Mdh1	ENSMUSG00 000020321	malate dehydrogenase 1, NAD (soluble) Source MGI Symbol Acc MGI 97051
D04	UPFM094819 6	ENSMUST00000 114094.2	Mdh1b	ENSMUSG00 000025963	malate dehydrogenase 1B, NAD (soluble) Source MGI Symbol Acc MGI 1923918
D05	UPFM067300 3	ENSMUST00000 196285.1	Mdh2	ENSMUSG00 000019179	malate dehydrogenase 2, NAD (mitochondrial) Source MGI Symbol Acc MGI 97050
D06	UPFM087019 0	ENSMUST00000 140765.7	Ogdh	ENSMUSG00 000020456	oxoglutarate (alpha-ketoglutarate) dehydrogenase (lipoamide) Source MGI Symbol Acc MGI 1098267
D07	UPFM090146 6	ENSMUST00000 150629.7	Pck1	ENSMUSG00 000027513	phosphoenolpyruvate carboxykinase 1, cytosolic Source MGI Symbol Acc MGI 97501
D08	UPFM100687 4	ENSMUST00000 226231.1	Pck2	ENSMUSG00 000040618	phosphoenolpyruvate carboxykinase 2 (mitochondrial) Source MGI Symbol Acc MGI 1860456
D09	UPFM086455 5	ENSMUST00000 224726.2	Pcx	ENSMUSG00 000024892	pyruvate carboxylase Source MGI Symbol Acc MGI 97520
D10	UPFM082385 0	ENSMUST00000 126440.1	Pdha1	ENSMUSG00 000031299	pyruvate dehydrogenase E1 alpha 1 Source MGI Symbol Acc MGI 97532
D11	UPFM066502 2	ENSMUST00000 022268.9	Pdha2	ENSMUSG00 000021748	pyruvate dehydrogenase (lipoamide) beta Source MGI Symbol Acc MGI 1915513
D12	UPFM080898 6	ENSMUST00000 134362.7	Pdk1	ENSMUSG00 000006494	pyruvate dehydrogenase kinase, isoenzyme 1 Source MGI Symbol Acc MGI 1926119
E01	UPFM081696 8	ENSMUST00000 126730.1	Pdk2	ENSMUSG00 000038967	pyruvate dehydrogenase kinase, isoenzyme 2 Source MGI Symbol Acc MGI 1343087
E02	UPFM068417 3	ENSMUST00000 134502.1	Pdk3	ENSMUSG00 000035232	pyruvate dehydrogenase kinase, isoenzyme 3 Source MGI Symbol Acc MGI 2384308
E03	UPFM076170 2	ENSMUST00000 203347.2	Pdk4	ENSMUSG00 000019577	pyruvate dehydrogenase kinase, isoenzyme 4 Source MGI Symbol Acc MGI 1351481
E04	UPFM062040 5	ENSMUST00000 059588.7	Pdp2	ENSMUSG00 000048371	pyruvate dehydrogenase phosphatase catalytic subunit 2 Source MGI Symbol Acc MGI 1918878
E05	UPFM068790 2	ENSMUST00000 144377.1	Pdpr	ENSMUSG00 000033624	pyruvate dehydrogenase phosphatase regulatory subunit Source MGI Symbol Acc MGI 2442188
E06	UPFM083765 4	ENSMUST00000 148818.1	Pfkfb3	ENSMUSG00 000020277	phosphofructokinase, liver, B-type Source MGI Symbol Acc MGI 97547
E07	UPFM091334 6	ENSMUST00000 020768.3	Pgam2	ENSMUSG00 000020475	phosphoglycerate mutase 2 Source MGI Symbol Acc MGI 1933118
E08	UPFM113295 1	ENSMUST00000 081593.12	Pgk1	ENSMUSG00 000062070	phosphoglycerate kinase 1 Source MGI Symbol Acc MGI 97555
E09	UPFM064208 0	ENSMUST00000 033585.6	Pgk2	ENSMUSG00 000031233	phosphoglycerate kinase 2 Source MGI Symbol Acc MGI 97563
E10	UPFM098233 0	ENSMUST00000 129152.1	Pgm2	ENSMUSG00 000029171	phosphoglucomutase 2 Source MGI Symbol Acc MGI 97564
E11	UPFM071437 8	ENSMUST00000 058351.15	Pgm1	ENSMUSG00 000025791	phosphoglucomutase 1 Source MGI Symbol Acc MGI 97565
E12	UPFM082256 3	ENSMUST00000 186193.6	Pgm3	ENSMUSG00 000056131	phosphoglucomutase 3 Source MGI Symbol Acc MGI 97566
F01	UPFM077266 0	ENSMUST00000 043596.11	Phka1	ENSMUSG00 000034055	phosphorylase kinase alpha 1 Source MGI Symbol Acc MGI 97576
F02	UPFM077351 0	ENSMUST00000 162464.2	Phkb	ENSMUSG00 000036879	phosphorylase kinase beta Source MGI Symbol Acc MGI 97578
F03	UPFM063013 5	ENSMUST00000 154932.2	Phkg1	ENSMUSG00 000025537	phosphorylase kinase gamma 1 Source MGI Symbol Acc MGI 97579
F04	UPFM066392 2	ENSMUST00000 033086.7	Phkg2	ENSMUSG00 000030815	phosphorylase kinase, gamma 2 (testis) Source MGI Symbol Acc MGI 1916211
F05	UPFM096059 1	ENSMUST00000 047111.12	Pkfr	ENSMUSG00 000041237	pyruvate kinase liver and red blood cell Source MGI Symbol Acc MGI 97604
F06	UPFM067695 4	ENSMUST00000 033809.3	Prps1	ENSMUSG00 000031432	phosphoribosyl pyrophosphate synthetase 1 Source MGI Symbol Acc MGI 97775
F07	UPFM081780 5	ENSMUST00000 134550.2	Prps11	ENSMUSG00 000092305	phosphoribosyl pyrophosphate synthetase 1-like 1 Source MGI Symbol Acc MGI 1922706
F08	UPFM071970 8	ENSMUST00000 026839.4	Prps2	ENSMUSG00 000025742	phosphoribosyl pyrophosphate synthetase 2 Source MGI Symbol Acc MGI 97776
F09	UPFM086691 8	ENSMUST00000 166609.1	Pygl	ENSMUSG00 000021069	liver glycogen phosphorylase Source MGI Symbol Acc MGI 97829
F10	UPFM072362 2	ENSMUST00000 035269.14	Pygm	ENSMUSG00 000032648	muscle glycogen phosphorylase Source MGI Symbol Acc MGI 97830

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFM068202 7	ENSMUST00000 202036.1	Rbks	ENSMUSG00 000029136	ribokinase Source MGI Symbol Acc MGI 1918586
F12	UPFM083331 7	ENSMUST00000 027157.9	Rpe	ENSMUSG00 000026005	ribulose-5-phosphate-3-epimerase Source MGI Symbol Acc MGI 1913896
G01	UPFM100203 7	ENSMUST00000 066134.5	Rpia	ENSMUSG00 000053604	ribose 5-phosphate isomerase A Source MGI Symbol Acc MGI 103254
G02	UPFM075407 9	ENSMUST00000 160667.7	Sdha	ENSMUSG00 000021577	succinate dehydrogenase complex, subunit A, flavoprotein (Fp) Source MGI Symbol Acc MGI 1914195
G03	UPFM075653 3	ENSMUST00000 125780.1	Sdhb	ENSMUSG00 000009863	succinate dehydrogenase complex, subunit B, iron sulfur (lp) Source MGI Symbol Acc MGI 1914930
G04	UPFM074033 4	ENSMUST00000 081560.4	Sdhc	ENSMUSG00 000058076	succinate dehydrogenase complex, subunit C, integral membrane protein Source MGI Symbol Acc MGI 1913302
G05	UPFM092168 7	ENSMUST00000 000175.5	Sdhd	ENSMUSG00 000000171	succinate dehydrogenase complex, subunit D, integral membrane protein Source MGI Symbol Acc MGI 1914175
G06	UPFM099216 6	ENSMUST00000 160507.7	Sucla2	ENSMUSG00 000022110	succinate-Coenzyme A ligase, ADP-forming, beta subunit Source MGI Symbol Acc MGI 1306775
G07	UPFM088221 4	ENSMUST00000 203632.1	Suclg1	ENSMUSG00 000052738	succinate-CoA ligase, GDP-forming, alpha subunit Source MGI Symbol Acc MGI 1927234
G08	UPFM078383 9	ENSMUST00000 203071.1	Suclg2	ENSMUSG00 000061838	succinate-Coenzyme A ligase, GDP-forming, beta subunit Source MGI Symbol Acc MGI 1306824
G09	UPFM064679 2	ENSMUST00000 125597.1	Taldo1	ENSMUSG00 000025503	transaldolase 1 Source MGI Symbol Acc MGI 1274789
G10	UPFM080181 7	ENSMUST00000 162356.1	Tkt	ENSMUSG00 000021957	transketolase Source MGI Symbol Acc MGI 105992
G11	UPFM078671 6	ENSMUST00000 172132.8	Tpi1	ENSMUSG00 000023456	triosephosphate isomerase 1 Source MGI Symbol Acc MGI 98797
G12	UPFM083317 7	ENSMUST00000 060895.5	Ugp2	ENSMUSG00 000001891	UDP-glucose pyrophosphorylase 2 Source MGI Symbol Acc MGI 2183447
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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