

# QuantiNova® LNA® PCR Focus Panels (Rotor-Gene® Format)

## Mouse Glucose Metabolism

Cat. no. 249950 SBMM-006ZR

For study focus gene expression analysis

### Shipping and storage

QuantiNova LNA PCR Focus Panels are shipped at ambient temperature. Immediately upon receipt, they should be stored 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 PCR Focus Panels should be used together with the QuantiNova Reverse Transcription Kit for cDNA synthesis and the QuantiNova SYBR® Green PCR Kit (Mastermix) for PCR.

### Panel layout (Rotor-Gene): QuantiNova LNA PCR Focus Panel

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc® (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance. Refer to the QuantiNova LNA PCR System 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	Ag1	Aldoa	Aldob	Aldoc	Bpgm	Cs	Dlat	Dld	Dlat
B	Eno1	Eno2	Eno3	Fbp1	Fbp2	Fh1	G6pc	G6pc3	G6pdx	Galm	Gapdhs	Gbe1
C	Cck	Gpi1	Gsk3a	Gsk3b	Gys1	Gys2	H6pd	Hk2	Hk3	Idh1	Idh2	Idh3a
D	Idh3b	Idh3g	Mdh1	Mdh1b	Mdh2	Ogdh	Pck1	Pck2	Pcx	Pdh1	Pdhb	Pdk1
E	Pdk2	Pdk3	Pdk4	Pdp2	Pdpr	Pfkf	Pgam2	Pgk1	Pgk2	Pgm2	Pgm1	Pgm3
F	Phka1	Phkb	Phk1	Phk2	Pkfr	Prps1	Prps111	Prps2	Pygl	Pygm	Rbks	Rpe
G	Rpia	Sdha	Sdhb	Sdhc	Sdhd	Suc1a2	Suc1g1	Suc1g2	Taldo1	Tkt	Tpi1	Ugp2
H	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	QIC	QIC	QIC	PPC	PPC	PPC

## Gene table: QuantiNova LNA PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	SBM0970496	ENSMUST00000107389.7	Acly	ENSMUSG0000020917	ATP citrate lyase Source MGI Symbol Acc MGI 103251
A02	SBM1034004	ENSMUST00000142360.1	Aco1	ENSMUSG0000028405	aconitase 1 Source MGI Symbol Acc MGI 87879
A03	SBM0726193	ENSMUST00000144324.1	Aco2	ENSMUSG0000022477	aconitase 2, mitochondrial Source MGI Symbol Acc MGI 87880
A04	SBM1006753	ENSMUST00000040603.13	AgI	ENSMUSG0000033400	amylase-1,6-glucosidase, 4-alpha-glucanotransferase Source MGI Symbol Acc MGI 1924809
A05	SBM1034918	ENSMUST00000106348.7	Aldoa	ENSMUSG0000030695	aldolase A, fructose-bisphosphate Source MGI Symbol Acc MGI 87994
A06	SBM1032723	ENSMUST00000029987.9	Aldob	ENSMUSG0000028307	aldolase B, fructose-bisphosphate Source MGI Symbol Acc MGI 87995
A07	SBM1004570	ENSMUST00000017534.14	Aldoc	ENSMUSG0000017390	aldolase C, fructose-bisphosphate Source MGI Symbol Acc MGI 101863
A08	SBM0679796	ENSMUST00000139067.1	Bpgm	ENSMUSG0000038871	2,3-bisphosphoglycerate mutase Source MGI Symbol Acc MGI 1098242
A09	SBM0906169	ENSMUST00000005826.8	Cs	ENSMUSG0000005683	citrate synthase Source MGI Symbol Acc MGI 88529
A10	SBM0713668	ENSMUST00000126933.7	Dlat	ENSMUSG0000000168	dihydrolipoamide S-acetyltransferase (E2 component of pyruvate dehydrogenase complex) Source MGI Symbol Acc MGI 2385311
A11	SBM0825485	ENSMUST00000220415.1	Dld	ENSMUSG0000020664	dihydrolipoamide dehydrogenase Source MGI Symbol Acc MGI 107450
A12	SBM0734798	ENSMUST00000220633.1	Dlst	ENSMUSG0000004789	dihydrolipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex) Source MGI Symbol Acc MGI 1926170
B01	SBM0855174	ENSMUST00000141931.1	Eno1	ENSMUSG0000063524	enolase 1, alpha non-neuron Source MGI Symbol Acc MGI 95393
B02	SBM0953479	ENSMUST00000112476.7	Eno2	ENSMUSG0000004267	enolase 2, gamma neuronal Source MGI Symbol Acc MGI 95394
B03	SBM1086154	ENSMUST00000157027.7	Eno3	ENSMUSG0000060600	enolase 3, beta muscle Source MGI Symbol Acc MGI 95395
B04	SBM0968769	ENSMUST00000092888.10	Fbp1	ENSMUSG0000069805	fructose bisphosphatase 1 Source MGI Symbol Acc MGI 95492
B05	SBM0727893	ENSMUST00000021907.8	Fbp2	ENSMUSG0000021456	fructose bisphosphatase 2 Source MGI Symbol Acc MGI 95491
B06	SBM0842879	ENSMUST00000130996.1	Fh1	ENSMUSG0000026526	fumarate hydratase 1 Source MGI Symbol Acc MGI 95530
B07	SBM0872131	ENSMUST00000019469.2	G6pc	ENSMUSG0000078650	glucose-6-phosphatase, catalytic Source MGI Symbol Acc MGI 95607
B08	SBM0893034	ENSMUST00000070334.9	G6pc3	ENSMUSG0000034793	glucose 6 phosphatase, catalytic, 3 Source MGI Symbol Acc MGI 1915651
B09	SBM1034614	ENSMUST00000135894.1	G6pdx	ENSMUSG0000031400	glucose-6-phosphate dehydrogenase X-linked Source MGI Symbol Acc MGI 105979
B10	SBM0855207	ENSMUST00000039205.10	Galm	ENSMUSG0000035473	galactose mutarotase Source MGI Symbol Acc MGI 2442420
B11	SBM0810980	ENSMUST00000182634.7	Gapdhs	ENSMUSG0000061099	glyceraldehyde-3-phosphate dehydrogenase, spermatogenic Source MGI Symbol Acc MGI 95653
B12	SBM1002970	ENSMUST00000164300.1	Gbe1	ENSMUSG0000022707	glucan (1,4-alpha-), branching enzyme 1 Source MGI Symbol Acc MGI 1921435
C01	SBM1029217	ENSMUST00000109822.7	Gck	ENSMUSG0000041798	glucokinase Source MGI Symbol Acc MGI 1270854
C02	SBM1045586	ENSMUST00000038027.5	Gpi1	ENSMUSG0000036427	glucose phosphate isomerase 1 Source MGI Symbol Acc MGI 95797
C03	SBM0806019	ENSMUST00000071739.11	Gsk3a	ENSMUSG0000057177	glycogen synthase kinase 3 alpha Source MGI Symbol Acc MGI 2152453
C04	SBM0862470	ENSMUST00000132057.1	Gsk3b	ENSMUSG0000022812	glycogen synthase kinase 3 beta Source MGI Symbol Acc MGI 1861437
C05	SBM0942563	ENSMUST00000003964.16	Gys1	ENSMUSG0000003865	glycogen synthase 1, muscle Source MGI Symbol Acc MGI 101805
C06	SBM0675330	ENSMUST00000032371.7	Gys2	ENSMUSG0000030244	glycogen synthase 2 Source MGI Symbol Acc MGI 2385254
C07	SBM1011091	ENSMUST00000030830.3	H6pd	ENSMUSG0000028980	hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase) Source MGI Symbol Acc MGI 2140356
C08	SBM1068583	ENSMUST0000000642.10	Hk2	ENSMUSG0000000628	hexokinase 2 Source MGI Symbol Acc MGI 1315197
C09	SBM0999960	ENSMUST00000126234.7	Hk3	ENSMUSG0000025877	hexokinase 3 Source MGI Symbol Acc MGI 2670962
C10	SBM1066582	ENSMUST00000169032.7	ldh1	ENSMUSG0000025950	isocitrate dehydrogenase 1 (NADP+), soluble Source MGI Symbol Acc MGI 96413
		ENSMUST00000		ENSMUSG00	isocitrate dehydrogenase 2 (NADP+), mitochondrial Source MGI Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBM1025228	206714.1	ldh2	000030541	MGI 96414
C12	SBM0853039	ENSMUST00000217484.1	ldh3a	ENSMUSG0000032279	isocitrate dehydrogenase 3 (NAD+) alpha Source MGI Symbol Acc MGI 1915084
D01	SBM0989000	ENSMUST0000028892.10	ldh3b	ENSMUSG0000027406	isocitrate dehydrogenase 3 (NAD+) beta Source MGI Symbol Acc MGI 2158650
D02	SBM0783205	ENSMUST00000148419.7	ldh3g	ENSMUSG0000002010	isocitrate dehydrogenase 3 (NAD+), gamma Source MGI Symbol Acc MGI 1099463
D03	SBM1005760	ENSMUST00000125302.1	Mdh1	ENSMUSG0000020321	malate dehydrogenase 1, NAD (soluble) Source MGI Symbol Acc MGI 97051
D04	SBM0813181	ENSMUST00000114094.2	Mdh1b	ENSMUSG0000025963	malate dehydrogenase 1B, NAD (soluble) Source MGI Symbol Acc MGI 1923918
D05	SBM0816629	ENSMUST00000196285.1	Mdh2	ENSMUSG0000019179	malate dehydrogenase 2, NAD (mitochondrial) Source MGI Symbol Acc MGI 97050
D06	SBM0766690	ENSMUST00000140765.7	Ogdh	ENSMUSG0000020456	oxoglutarate (alpha-ketoglutarate) dehydrogenase (lipoamide) Source MGI Symbol Acc MGI 1098267
D07	SBM0953267	ENSMUST0000029017.5	Pck1	ENSMUSG0000027513	phosphoenolpyruvate carboxykinase 1, cytosolic Source MGI Symbol Acc MGI 97501
D08	SBM1060112	ENSMUST00000228921.1	Pck2	ENSMUSG0000040618	phosphoenolpyruvate carboxykinase 2 (mitochondrial) Source MGI Symbol Acc MGI 1860456
D09	SBM0726447	ENSMUST00000224726.2	Pcx	ENSMUSG0000024892	pyruvate carboxylase Source MGI Symbol Acc MGI 97520
D10	SBM1054932	ENSMUST00000126440.1	Pdha1	ENSMUSG0000031299	pyruvate dehydrogenase E1 alpha 1 Source MGI Symbol Acc MGI 97532
D11	SBM1053181	ENSMUST0000022268.9	Pdha2	ENSMUSG0000021748	pyruvate dehydrogenase (lipoamide) beta Source MGI Symbol Acc MGI 1915513
D12	SBM0889266	ENSMUST00000134362.7	Pdk1	ENSMUSG0000006494	pyruvate dehydrogenase kinase, isoenzyme 1 Source MGI Symbol Acc MGI 1926119
E01	SBM0921992	ENSMUST00000141712.7	Pdk2	ENSMUSG0000038967	pyruvate dehydrogenase kinase, isoenzyme 2 Source MGI Symbol Acc MGI 1343087
E02	SBM0990821	ENSMUST00000045748.6	Pdk3	ENSMUSG0000035232	pyruvate dehydrogenase kinase, isoenzyme 3 Source MGI Symbol Acc MGI 2384308
E03	SBM0854468	ENSMUST00000019721.6	Pdk4	ENSMUSG0000019577	pyruvate dehydrogenase kinase, isoenzyme 4 Source MGI Symbol Acc MGI 1351481
E04	SBM0716872	ENSMUST00000059588.7	Pdp2	ENSMUSG0000048371	pyruvate dehydrogenase phosphatase catalytic subunit 2 Source MGI Symbol Acc MGI 1918878
E05	SBM0729240	ENSMUST00000135302.7	Pdpr	ENSMUSG0000033624	pyruvate dehydrogenase phosphatase regulatory subunit Source MGI Symbol Acc MGI 2442188
E06	SBM0896739	ENSMUST00000148818.1	Pfkfb3	ENSMUSG0000020277	phosphofructokinase, liver, B-type Source MGI Symbol Acc MGI 97547
E07	SBM0796537	ENSMUST00000020768.3	Pgam2	ENSMUSG0000020475	phosphoglycerate mutase 2 Source MGI Symbol Acc MGI 1933118
E08	SBM1225374	ENSMUST00000081593.12	Pgk1	ENSMUSG0000062070	phosphoglycerate kinase 1 Source MGI Symbol Acc MGI 97555
E09	SBM0842463	ENSMUST00000033585.6	Pgk2	ENSMUSG0000031233	phosphoglycerate kinase 2 Source MGI Symbol Acc MGI 97563
E10	SBM0969872	ENSMUST00000087324.6	Pgm2	ENSMUSG0000029171	phosphoglucomutase 2 Source MGI Symbol Acc MGI 97564
E11	SBM0803946	ENSMUST00000102783.4	Pgm1	ENSMUSG0000025791	phosphoglucomutase 1 Source MGI Symbol Acc MGI 97565
E12	SBM0995230	ENSMUST00000070064.10	Pgm3	ENSMUSG0000056131	phosphoglucomutase 3 Source MGI Symbol Acc MGI 97566
F01	SBM0823849	ENSMUST00000113611.2	Phka1	ENSMUSG0000034055	phosphorylase kinase alpha 1 Source MGI Symbol Acc MGI 97576
F02	SBM0741386	ENSMUST00000161850.7	Phkb	ENSMUSG0000036879	phosphorylase kinase beta Source MGI Symbol Acc MGI 97578
F03	SBM0840861	ENSMUST00000140667.1	Phkg1	ENSMUSG0000025537	phosphorylase kinase gamma 1 Source MGI Symbol Acc MGI 97579
F04	SBM0677255	ENSMUST00000205633.1	Phkg2	ENSMUSG0000030815	phosphorylase kinase, gamma 2 (testis) Source MGI Symbol Acc MGI 1916211
F05	SBM0893001	ENSMUST00000127058.1	Pkfr	ENSMUSG0000041237	pyruvate kinase liver and red blood cell Source MGI Symbol Acc MGI 97604
F06	SBM0799045	ENSMUST00000155235.1	Prps1	ENSMUSG0000031432	phosphoribosyl pyrophosphate synthetase 1 Source MGI Symbol Acc MGI 97775
F07	SBM0957467	ENSMUST00000134550.2	Prps11	ENSMUSG0000092305	phosphoribosyl pyrophosphate synthetase 1-like 1 Source MGI Symbol Acc MGI 1922706
F08	SBM0692439	ENSMUST00000145456.1	Prps2	ENSMUSG0000025742	phosphoribosyl pyrophosphate synthetase 2 Source MGI Symbol Acc MGI 97776
F09	SBM0822392	ENSMUST00000166609.1	Pygl	ENSMUSG0000021069	liver glycogen phosphorylase Source MGI Symbol Acc MGI 97829
F10	SBM0770593	ENSMUST00000035269.14	Pygm	ENSMUSG0000032648	muscle glycogen phosphorylase Source MGI Symbol Acc MGI 97830

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBM0926168	ENSMUST00000031018.9	Rbks	ENSMUSG0000029136	ribokinase Source MGI Symbol Acc MGI 1918586
F12	SBM0757643	ENSMUST00000190404.1	Rpe	ENSMUSG0000026005	ribulose-5-phosphate-3-epimerase Source MGI Symbol Acc MGI 1913896
G01	SBM0774730	ENSMUST00000066134.5	Rpia	ENSMUSG0000053604	ribose 5-phosphate isomerase A Source MGI Symbol Acc MGI 103254
G02	SBM1018273	ENSMUST00000160667.7	Sdha	ENSMUSG0000021577	succinate dehydrogenase complex, subunit A, flavoprotein (Fp) Source MGI Symbol Acc MGI 1914195
G03	SBM1002550	ENSMUST00000129181.7	Sdhb	ENSMUSG0000009863	succinate dehydrogenase complex, subunit B, iron sulfur (lp) Source MGI Symbol Acc MGI 1914930
G04	SBM1022909	ENSMUST00000081560.4	Sdhc	ENSMUSG0000058076	succinate dehydrogenase complex, subunit C, integral membrane protein Source MGI Symbol Acc MGI 1913302
G05	SBM0695141	ENSMUST00000000175.5	Sdhd	ENSMUSG0000000171	succinate dehydrogenase complex, subunit D, integral membrane protein Source MGI Symbol Acc MGI 1914175
G06	SBM0685934	ENSMUST00000160507.7	Sucla2	ENSMUSG0000022110	succinate-Coenzyme A ligase, ADP-forming, beta subunit Source MGI Symbol Acc MGI 1306775
G07	SBM0870714	ENSMUST00000203632.1	Suclg1	ENSMUSG0000052738	succinate-CoA ligase, GDP-forming, alpha subunit Source MGI Symbol Acc MGI 1927234
G08	SBM0858909	ENSMUST00000079847.7	Suclg2	ENSMUSG0000061838	succinate-Coenzyme A ligase, GDP-forming, beta subunit Source MGI Symbol Acc MGI 1306824
G09	SBM0928933	ENSMUST00000211654.1	Taldo1	ENSMUSG0000025503	transaldolase 1 Source MGI Symbol Acc MGI 1274789
G10	SBM0786118	ENSMUST00000022529.7	Tkt	ENSMUSG0000021957	transketolase Source MGI Symbol Acc MGI 105992
G11	SBM0710917	ENSMUST00000154883.3	Tpi1	ENSMUSG0000023456	triosephosphate isomerase 1 Source MGI Symbol Acc MGI 98797
G12	SBM0896549	ENSMUST00000060895.5	Ugp2	ENSMUSG0000001891	UDP-glucose pyrophosphorylase 2 Source MGI Symbol Acc MGI 2183447
H01	SBM1220560	ENSMUST00000100497.10	Actb	ENSMUSG0000029580	actin, beta Source MGI Symbol Acc MGI 87904
H02	SBM0675336	ENSMUST00000102476.4	B2m	ENSMUSG0000060802	beta-2 microglobulin Source MGI Symbol Acc MGI 88127
H03	SBM1220562	ENSMUST00000117757.8	Gapdh	ENSMUSG0000057666	glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640
H04	SBM1220563	ENSMUST00000026613.13	Gusb	ENSMUSG0000025534	glucuronidase, beta Source MGI Symbol Acc MGI 95872
H05	SBM1220564	ENSMUST00000166469.7	Hsp90ab1	ENSMUSG0000023944	heat shock protein 90 alpha (cytosolic), class B member 1 Source MGI Symbol Acc MGI 96247
H06	SBM1218554	Sybr_MGDC	MGDC	Sybr_MGDC	Mouse Genomic DNA Contamination
H07	SBH1218551	Sybr_QIC	QIC	Sybr_QIC	QuantiNova Internal Control
H08	SBH1218551	Sybr_QIC	QIC	Sybr_QIC	QuantiNova Internal Control
H09	SBH1218551	Sybr_QIC	QIC	Sybr_QIC	QuantiNova Internal Control
H10	SBH1218550	Sybr_PPC	PPC	Sybr_PPC	Positive PCR Control
H11	SBH1218550	Sybr_PPC	PPC	Sybr_PPC	Positive PCR Control
H12	SBH1218550	Sybr_PPC	PPC	Sybr_PPC	Positive PCR Control



## Related products

Product	Contents	Cat. no.
QuantiNova LNA PCR QC Panel	These panels are designed to assess the quality of RNA samples before characterization using QuantiNova LNA PCR Focus Panels; available in 96-well, 384-well, and Rotor-Disc 100 formats	249940
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 SYBR Green RT-PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 $\mu$ l QuantiNova SYBR Green 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	208152
QuantiNova SYBR Green PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 $\mu$ l QuantiNova Yellow Template Dilution Buffer, 250 $\mu$ l QN ROX Reference Dye, 1.9 ml Water	208052

\*Larger kit sizes available.

The QuantiNova LNA 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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