

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

## Mouse Diabetes

Cat. no. 249950 SBMM-023ZR

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	Ace	Acy	Adra1a	Adrb3	Agt	Akt2	Aqp2	Cd5	Ccr2	Cd28	Ceacam1	Cebpa
B	Ctla4	Dpp4	Dusp4	Enpp1	Fbp1	Foxc2	Foxg1	Foxp3	G6pc	G6pd2	Gcg	Gcgr
C	Glp1r	Gpd1	Gsk3b	Hmax1	Hnf1b	Hnf4a	Icam1	Ide	Ifng	Igfbp5	Ikkbb	Ii10
D	Ii12b	Il4ra	Il6	Inpp1	Ins1	Irs1	Mapk14	Mapk8	Neurod1	Nfk1	Nos3	Nrf1
E	Nsf	Parp1	Pax4	Pck1	Pdx1	Pikfb3	Pik3cd	Pik3r1	Ppara	Pparg	Ppargc1a	Ptfn1
F	Pygl	Rab4a	Reln	Sell	Serpine1	Slc14a2	Slc2a4	Snap23	Snap25	Sod2	Srebf1	Stx4a
G	Stxbp1	Stxbp4	Tgfb1	Tnf	Tnfrsf1a	Tnfrsf1b	Trtb3	Ucp2	Vamp2	Vamp3	Vopa	Vegfa
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	SBM0904655	ENSMUST00000151657.1	Ace	ENSMUSG0000020681	angiotensin I converting enzyme (peptidyl-dipeptidase A) 1 Source MGI Symbol Acc MGI 87874
A02	SBM0970496	ENSMUST00000107389.7	Acly	ENSMUSG0000020917	ATP citrate lyase Source MGI Symbol Acc MGI 103251
A03	SBM0789211	ENSMUST00000160647.1	Adra1a	ENSMUSG0000045875	adrenergic receptor, alpha 1a Source MGI Symbol Acc MGI 104773
A04	SBM0825801	ENSMUST00000121838.1	Adrb3	ENSMUSG0000031489	adrenergic receptor, beta 3 Source MGI Symbol Acc MGI 87939
A05	SBM0838798	ENSMUST00000063278.6	Agt	ENSMUSG0000031980	angiotensinogen (serpin peptidase inhibitor, clade A, member 8) Source MGI Symbol Acc MGI 87963
A06	SBM0882867	ENSMUST00000051356.11	Akt2	ENSMUSG0000004056	thymoma viral proto-oncogene 2 Source MGI Symbol Acc MGI 104874
A07	SBM1013609	ENSMUST00000023752.5	Aqp2	ENSMUSG0000023013	aquaporin 2 Source MGI Symbol Acc MGI 1096865
A08	SBM0703029	ENSMUST00000125015.1	Ccl5	ENSMUSG0000035042	chemokine (C-C motif) ligand 5 Source MGI Symbol Acc MGI 98262
A09	SBM0796638	ENSMUST00000168841.2	Ccr2	ENSMUSG0000049103	chemokine (C-C motif) receptor 2 Source MGI Symbol Acc MGI 106185
A10	SBM0735565	ENSMUST00000027165.2	Cd28	ENSMUSG0000026012	CD28 antigen Source MGI Symbol Acc MGI 88327
A11	SBM0996681	ENSMUST00000206687.1	Ceacam1	ENSMUSG0000074272	carcinoembryonic antigen-related cell adhesion molecule 1 Source MGI Symbol Acc MGI 1347245
A12	SBM0970317	ENSMUST00000205391.1	Cebpa	ENSMUSG0000034957	CCAAT/enhancer binding protein (C/EBP), alpha Source MGI Symbol Acc MGI 99480
B01	SBM0711116	ENSMUST00000124816.1	Ctla4	ENSMUSG0000026011	cytotoxic T-lymphocyte-associated protein 4 Source MGI Symbol Acc MGI 88556
B02	SBM0812511	ENSMUST00000047812.7	Dpp4	ENSMUSG0000035000	dipeptidylpeptidase 4 Source MGI Symbol Acc MGI 94919
B03	SBM1072631	ENSMUST00000033930.4	Dusp4	ENSMUSG0000031530	dual specificity phosphatase 4 Source MGI Symbol Acc MGI 2442191
B04	SBM0760643	ENSMUST00000150570.7	Enpp1	ENSMUSG0000037370	ectonucleotide pyrophosphatase/phosphodiesterase 1 Source MGI Symbol Acc MGI 97370
B05	SBM0968769	ENSMUST00000092888.10	Fbp1	ENSMUSG0000069805	fructose bisphosphatase 1 Source MGI Symbol Acc MGI 95492
B06	SBM0872986	ENSMUST00000054691.7	Foxc2	ENSMUSG0000046714	forkhead box C2 Source MGI Symbol Acc MGI 1347481
B07	SBM0708392	ENSMUST00000179669.2	Foxg1	ENSMUSG0000020950	forkhead box G1 Source MGI Symbol Acc MGI 1347464
B08	SBM0951877	ENSMUST00000234479.1	Foxp3	ENSMUSG0000039521	forkhead box P3 Source MGI Symbol Acc MGI 1891436
B09	SBM0872131	ENSMUST00000019469.2	G6pc	ENSMUSG0000078650	glucose-6-phosphatase, catalytic Source MGI Symbol Acc MGI 95607
B10	SBM0786488	ENSMUST00000053876.4	G6pd2	ENSMUSG0000089992	glucose-6-phosphate dehydrogenase 2 Source MGI Symbol Acc MGI 105977
B11	SBM0711962	ENSMUST00000155624.1	Gcg	ENSMUSG0000000394	glucagon Source MGI Symbol Acc MGI 95674
B12	SBM0812666	ENSMUST00000026119.7	Gcgr	ENSMUSG0000025127	glucagon receptor Source MGI Symbol Acc MGI 99572
C01	SBM0716398	ENSMUST00000114574.2	Glp1r	ENSMUSG0000024027	glucagon-like peptide 1 receptor Source MGI Symbol Acc MGI 99571
C02	SBM0849967	ENSMUST00000161768.1	Gpd1	ENSMUSG0000023019	glycerol-3-phosphate dehydrogenase 1 (soluble) Source MGI Symbol Acc MGI 95679
C03	SBM0862470	ENSMUST00000132057.1	Gsk3b	ENSMUSG0000022812	glycogen synthase kinase 3 beta Source MGI Symbol Acc MGI 1861437
C04	SBM0936413	ENSMUST00000005548.7	Hmox1	ENSMUSG0000005413	heme oxygenase 1 Source MGI Symbol Acc MGI 96163
C05	SBM1218389	ENSMUST00000108114.8	Hnf1b	ENSMUSG0000020679	HNF1 homeobox B Source MGI Symbol Acc MGI 98505
C06	SBM0836445	ENSMUST00000109411.7	Hnf4a	ENSMUSG0000017950	hepatic nuclear factor 4, alpha Source MGI Symbol Acc MGI 109128
C07	SBM0806584	ENSMUST00000215003.1	Icam1	ENSMUSG0000037405	intercellular adhesion molecule 1 Source MGI Symbol Acc MGI 96392
C08	SBM0695040	ENSMUST00000154339.7	Ide	ENSMUSG0000056999	insulin degrading enzyme Source MGI Symbol Acc MGI 96412
C09	SBM0903694	ENSMUST00000068592.4	Iifng	ENSMUSG0000055170	interferon gamma Source MGI Symbol Acc MGI 107656
C10	SBM1004323	ENSMUST00000137339.1	Igfbp5	ENSMUSG0000026185	insulin-like growth factor binding protein 5 Source MGI Symbol Acc MGI 96440
		ENSMUST000000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBM0683235	144583.7	Ikbbk	000031537	inhibitor of kappaB kinase beta Source MGI Symbol Acc MGI 1338071
C12	SBM1004151	ENSMUST0000016673.5	Il10	ENSMUSG0000016529	interleukin 10 Source MGI Symbol Acc MGI 96537
D01	SBM0957286	ENSMUST00000102796.9	Il12b	ENSMUSG0000004296	interleukin 12b Source MGI Symbol Acc MGI 96540
D02	SBM0691649	ENSMUST00000206681.1	Il4ra	ENSMUSG0000030748	interleukin 4 receptor, alpha Source MGI Symbol Acc MGI 105367
D03	SBM0742623	ENSMUST0000026845.11	Il6	ENSMUSG0000025746	interleukin 6 Source MGI Symbol Acc MGI 96559
D04	SBM1020276	ENSMUST00000185929.1	Inpp1	ENSMUSG0000032737	inositol polyphosphate phosphatase-like 1 Source MGI Symbol Acc MGI 1333787
D05	SBM0872440	ENSMUST0000039652.5	Ins1	ENSMUSG0000035804	insulin I Source MGI Symbol Acc MGI 96572
D06	SBM0923271	ENSMUST0000069799.2	Irs1	ENSMUSG0000055980	insulin receptor substrate 1 Source MGI Symbol Acc MGI 99454
D07	SBM0683456	ENSMUST00000114754.7	Mapk14	ENSMUSG0000053436	mitogen-activated protein kinase 14 Source MGI Symbol Acc MGI 1346865
D08	SBM0984642	ENSMUST00000132379.1	Mapk8	ENSMUSG0000021936	mitogen-activated protein kinase 8 Source MGI Symbol Acc MGI 1346861
D09	SBM0788481	ENSMUST0000041099.4	Neurod1	ENSMUSG0000034701	neurogenic differentiation 1 Source MGI Symbol Acc MGI 1339708
D10	SBM0841870	ENSMUST00000164430.6	Nfkb1	ENSMUSG0000028163	nuclear factor of kappa light polypeptide gene enhancer in B cells 1, p105 Source MGI Symbol Acc MGI 97312
D11	SBM0681619	ENSMUST0000030834.6	Nos3	ENSMUSG0000028978	nitric oxide synthase 3, endothelial cell Source MGI Symbol Acc MGI 97362
D12	SBM1016123	ENSMUST00000115199.7	Nrf1	ENSMUSG0000058440	nuclear respiratory factor 1 Source MGI Symbol Acc MGI 1332235
E01	SBM0692088	ENSMUST00000149642.2	Nsf	ENSMUSG0000034187	N-ethylmaleimide sensitive fusion protein Source MGI Symbol Acc MGI 104560
E02	SBM0750626	ENSMUST00000191639.1	Parp1	ENSMUSG0000026496	poly (ADP-ribose) polymerase family, member 1 Source MGI Symbol Acc MGI 1340806
E03	SBM0871953	ENSMUST00000174194.1	Pax4	ENSMUSG0000029706	paired box 4 Source MGI Symbol Acc MGI 97488
E04	SBM0953267	ENSMUST0000029017.5	Pck1	ENSMUSG0000027513	phosphoenolpyruvate carboxykinase 1, cytosolic Source MGI Symbol Acc MGI 97501
E05	SBM0814253	ENSMUST0000085591.6	Pdx1	ENSMUSG0000029644	pancreatic and duodenal homeobox 1 Source MGI Symbol Acc MGI 102851
E06	SBM1083681	ENSMUST00000114844.7	Pfkfb3	ENSMUSG0000026773	6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 3 Source MGI Symbol Acc MGI 2181202
E07	SBM1031925	ENSMUST00000105688.9	Pik3cd	ENSMUSG0000039936	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit delta Source MGI Symbol Acc MGI 1098211
E08	SBM0805909	ENSMUST0000035532.12	Pik3r1	ENSMUSG0000041417	phosphoinositide-3-kinase regulatory subunit 1 Source MGI Symbol Acc MGI 97583
E09	SBM0952484	ENSMUST00000138813.7	Ppara	ENSMUSG0000022383	peroxisome proliferator activated receptor alpha Source MGI Symbol Acc MGI 104740
E10	SBM1015614	ENSMUST00000205213.2	Pparg	ENSMUSG0000000440	peroxisome proliferator activated receptor gamma Source MGI Symbol Acc MGI 97747
E11	SBM0984439	ENSMUST00000132734.7	Ppargc1a	ENSMUSG0000029167	peroxisome proliferative activated receptor, gamma, coactivator 1 alpha Source MGI Symbol Acc MGI 1342774
E12	SBM0939941	ENSMUST00000142717.1	Ptfn1	ENSMUSG0000027540	protein tyrosine phosphatase, non-receptor type 1 Source MGI Symbol Acc MGI 97805
F01	SBM0822392	ENSMUST00000166609.1	Pygl	ENSMUSG0000021069	liver glycogen phosphorylase Source MGI Symbol Acc MGI 97829
F02	SBM0998506	ENSMUST00000118535.7	Rab4a	ENSMUSG0000019478	RAB4A, member RAS oncogene family Source MGI Symbol Acc MGI 105069
F03	SBM0984170	ENSMUST00000102849.14	Refn	ENSMUSG0000012705	resistin Source MGI Symbol Acc MGI 1888506
F04	SBM0975834	ENSMUST0000097491.9	Sell	ENSMUSG0000026581	selectin, lymphocyte Source MGI Symbol Acc MGI 98279
F05	SBM0809699	ENSMUST0000041388.10	Serpine1	ENSMUSG0000037411	serine (or cysteine) peptidase inhibitor, clade E, member 1 Source MGI Symbol Acc MGI 97608
F06	SBM0970868	ENSMUST00000163367.2	Slc14a2	ENSMUSG0000024552	solute carrier family 14 (urea transporter), member 2 Source MGI Symbol Acc MGI 1351653
F07	SBM0717464	ENSMUST00000178809.7	Slc2a4	ENSMUSG0000018566	solute carrier family 2 (facilitated glucose transporter), member 4 Source MGI Symbol Acc MGI 95758
F08	SBM0726594	ENSMUST00000150611.7	Snap23	ENSMUSG0000027287	synaptosomal-associated protein 23 Source MGI Symbol Acc MGI 109356
F09	SBM0825941	ENSMUST00000125486.1	Snap25	ENSMUSG0000027273	synaptosomal-associated protein 25 Source MGI Symbol Acc MGI 98331
F10	SBM1063571	ENSMUST00000233791.1	Sod2	ENSMUSG0000006818	superoxide dismutase 2, mitochondrial Source MGI Symbol Acc MGI 98352

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBM0984070	ENSMUST00000020846.7	Srebf1	ENSMUSG0000020538	steroid regulatory element binding transcription factor 1 Source MGI Symbol Acc MGI 107606
F12	SBM0725244	ENSMUST00000033075.13	Stx4a	ENSMUSG0000030805	syntaxin 4A (placental) Source MGI Symbol Acc MGI 893577
G01	SBM0905968	ENSMUST00000077458.6	Stxbp1	ENSMUSG0000026797	syntaxin binding protein 1 Source MGI Symbol Acc MGI 107363
G02	SBM0921838	ENSMUST000000143203.7	Stxbp4	ENSMUSG0000020546	syntaxin binding protein 4 Source MGI Symbol Acc MGI 1342296
G03	SBM0850388	ENSMUST00000002678.9	Tgfb1	ENSMUSG000002603	transforming growth factor, beta 1 Source MGI Symbol Acc MGI 98725
G04	SBM0788439	ENSMUST00000025263.14	Tnf	ENSMUSG0000024401	tumor necrosis factor Source MGI Symbol Acc MGI 104798
G05	SBM0837100	ENSMUST000000134803.1	Tnfrsf1a	ENSMUSG0000030341	tumor necrosis factor receptor superfamily, member 1a Source MGI Symbol Acc MGI 1314884
G06	SBM0979488	ENSMUST000000143055.1	Tnfrsf1b	ENSMUSG0000028599	tumor necrosis factor receptor superfamily, member 1b Source MGI Symbol Acc MGI 1314883
G07	SBM1067338	ENSMUST000000040312.6	Trib3	ENSMUSG0000032715	tribbles pseudokinase 3 Source MGI Symbol Acc MGI 1345675
G08	SBM0938442	ENSMUST000000207748.1	Ucp2	ENSMUSG0000033685	uncoupling protein 2 (mitochondrial, proton carrier) Source MGI Symbol Acc MGI 109354
G09	SBM0762880	ENSMUST000000149559.1	Vamp2	ENSMUSG0000020894	vesicle-associated membrane protein 2 Source MGI Symbol Acc MGI 1313277
G10	SBM0698987	ENSMUST000000030797.3	Vamp3	ENSMUSG0000028955	vesicle-associated membrane protein 3 Source MGI Symbol Acc MGI 1321389
G11	SBM1053902	ENSMUST000000024897.9	Vapa	ENSMUSG0000024091	vesicle-associated membrane protein, associated protein A Source MGI Symbol Acc MGI 1353561
G12	SBM1079198	ENSMUST000000217017.1	Vegfa	ENSMUSG0000023951	vascular endothelial growth factor A Source MGI Symbol Acc MGI 103178
H01	SBM1220560	ENSMUST000000100497.10	Actb	ENSMUSG0000029580	actin, beta Source MGI Symbol Acc MGI 87904
H02	SBM0675336	ENSMUST000000102476.4	B2m	ENSMUSG0000060802	beta-2 microglobulin Source MGI Symbol Acc MGI 88127
H03	SBM1220562	ENSMUST000000117757.8	Gapdh	ENSMUSG0000057666	glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640
H04	SBM1220563	ENSMUST000000026613.13	Gusb	ENSMUSG0000025534	glucuronidase, beta Source MGI Symbol Acc MGI 95872
H05	SBM1220564	ENSMUST000000166469.7	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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