

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

## Mouse Embryonic Stem Cells

Cat. no. 249950 SBMM-081ZA

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 (96-well): QuantiNova LNA PCR Focus Panel

For the 384-well (4 × 96) PCR panels, genes are present in a staggered format. 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	Acta2	Aicda	Alb	Alpl	Ccna2	Cd44	Cdc42	Cdk1	Chd1	Chd7	Cnot3	Des
B	Dppa2	Dppa3	Dppa4	Dppa5a	En2	Eng	Esrrb	Ev2	Fgf2	Fgf5	Flii	Gata1
C	Gata2	Gata6	Gdf3	Gfap	Gsc	Hand1	Hnf4a	Hspa9	Isl1	Kat5	Klf4	Lin28a
D	Meis1	Mesp1	Mixl1	Mybl2	Myc	Myod1	Nanog	Ncam1	Nes	Nkx2-5	Nr0b1	Nr5a2
E	Nr6a1	Nr5e	Olig2	Otx2	Pat1	Pax6	Pou5f1	Prdm14	Rif1	Sall4	Scn1a	Smad1
F	Smad2	Smad3	Sox15	Sox17	Sox2	Sox3	Sox7	Stat3	T	Tagln	Tai1	Tat
G	Tbx3	Tcf3	Tcl1	Tdgf1	Tek	Tert	Thap11	Thy1	Trim28	Uhf1	Zfp42	Zfx
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	SBM0729572	ENSMUST00000238147.1	Acta2	ENSMUSG0000035783	actin, alpha 2, smooth muscle, aorta Source MGI Symbol Acc MGI 87909
A02	SBM1061882	ENSMUST0000043301.13	Aicda	ENSMUSG0000040627	activation-induced cytidine deaminase Source MGI Symbol Acc MGI 1342279
A03	SBM0873914	ENSMUST00000201356.1	Alb	ENSMUSG0000029368	albumin Source MGI Symbol Acc MGI 87991
A04	SBM0939481	ENSMUST00000133473.1	Alpl	ENSMUSG0000028766	alkaline phosphatase, liver/bone/kidney Source MGI Symbol Acc MGI 87983
A05	SBM0908421	ENSMUST0000029270.9	Ccna2	ENSMUSG0000027715	cyclin A2 Source MGI Symbol Acc MGI 108069
A06	SBM0860996	ENSMUST00000111194.7	Cd44	ENSMUSG0000005087	CD44 antigen Source MGI Symbol Acc MGI 88338
A07	SBM1071094	ENSMUST0000030417.9	Cdc42	ENSMUSG0000006699	cell division cycle 42 Source MGI Symbol Acc MGI 106211
A08	SBM0979951	ENSMUST00000129444.7	Cdk1	ENSMUSG0000019942	cyclin-dependent kinase 1 Source MGI Symbol Acc MGI 88351
A09	SBM0776645	ENSMUST00000174461.1	Chd1	ENSMUSG0000023852	chromodomain helicase DNA binding protein 1 Source MGI Symbol Acc MGI 88393
A10	SBM0929908	ENSMUST00000051558.9	Chd7	ENSMUSG0000041235	chromodomain helicase DNA binding protein 7 Source MGI Symbol Acc MGI 2444748
A11	SBM1050954	ENSMUST00000143085.7	Cnot3	ENSMUSG0000035632	CCR4-NOT transcription complex, subunit 3 Source MGI Symbol Acc MGI 2385261
A12	SBM1025275	ENSMUST0000027409.9	Des	ENSMUSG0000026208	desmin Source MGI Symbol Acc MGI 94885
B01	SBM0925787	ENSMUST00000232448.1	Dppa2	ENSMUSG0000072419	developmental pluripotency associated 2 Source MGI Symbol Acc MGI 2157523
B02	SBM0957364	ENSMUST00000123429.1	Dppa3	ENSMUSG0000046323	developmental pluripotency-associated 3 Source MGI Symbol Acc MGI 1920958
B03	SBM0977070	ENSMUST00000096045.8	Dppa4	ENSMUSG0000058550	developmental pluripotency associated 4 Source MGI Symbol Acc MGI 2157525
B04	SBM0901734	ENSMUST00000071991.5	Dppa5a	ENSMUSG0000060461	developmental pluripotency associated 5A Source MGI Symbol Acc MGI 101800
B05	SBM0855692	ENSMUST00000036177.8	En2	ENSMUSG0000039095	engrailed 2 Source MGI Symbol Acc MGI 95390
B06	SBM0877670	ENSMUST00000156306.1	Eng	ENSMUSG0000026814	endoglin Source MGI Symbol Acc MGI 95392
B07	SBM0714703	ENSMUST0000021680.11	Esrrb	ENSMUSG0000021255	estrogen related receptor, beta Source MGI Symbol Acc MGI 1346832
B08	SBM0890644	ENSMUST00000108147.2	Etv2	ENSMUSG0000006311	ets variant 2 Source MGI Symbol Acc MGI 99253
B09	SBM0959713	ENSMUST00000138563.8	Fgf2	ENSMUSG0000037225	fibroblast growth factor 2 Source MGI Symbol Acc MGI 95516
B10	SBM0796867	ENSMUST00000200059.1	Fgf5	ENSMUSG0000029337	fibroblast growth factor 5 Source MGI Symbol Acc MGI 95519
B11	SBM0857234	ENSMUST0000002889.4	Flii	ENSMUSG0000002812	flightless 1 actin binding protein Source MGI Symbol Acc MGI 1342286
B12	SBM0835110	ENSMUST00000033502.13	Gata1	ENSMUSG0000031162	GATA binding protein 1 Source MGI Symbol Acc MGI 95661
C01	SBM0720280	ENSMUST00000015197.8	Gata2	ENSMUSG0000015053	GATA binding protein 2 Source MGI Symbol Acc MGI 95662
C02	SBM0766909	ENSMUST00000047762.9	Gata6	ENSMUSG0000005836	GATA binding protein 6 Source MGI Symbol Acc MGI 107516
C03	SBM0688843	ENSMUST00000032211.4	Gdf3	ENSMUSG0000030117	growth differentiation factor 3 Source MGI Symbol Acc MGI 95686
C04	SBM1028741	ENSMUST00000127909.1	Gfap	ENSMUSG0000020932	glial fibrillary acidic protein Source MGI Symbol Acc MGI 95697
C05	SBM0992498	ENSMUST00000021513.5	Gsc	ENSMUSG0000021095	goosecoid homeobox Source MGI Symbol Acc MGI 95841
C06	SBM0775153	ENSMUST00000036917.2	Hand1	ENSMUSG0000037335	heart and neural crest derivatives expressed 1 Source MGI Symbol Acc MGI 103577
C07	SBM0836445	ENSMUST00000109411.7	Hnf4a	ENSMUSG0000017950	hepatic nuclear factor 4, alpha Source MGI Symbol Acc MGI 109128
C08	SBM0858823	ENSMUST00000025217.10	Hspa9	ENSMUSG0000024359	heat shock protein 9 Source MGI Symbol Acc MGI 96245
C09	SBM0835801	ENSMUST00000176444.1	Isl1	ENSMUSG0000042258	ISL1 transcription factor, LIM/homeodomain Source MGI Symbol Acc MGI 101791
C10	SBM0742354	ENSMUST00000235788.1	Kat5	ENSMUSG0000024926	K(lysine) acetyltransferase 5 Source MGI Symbol Acc MGI 1932051
		ENSMUST00000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBM0801791	132746.1	Klf4	000003032	Kruppel-like factor 4 (gut) Source MGI Symbol Acc MGI 1342287
C12	SBM0992646	ENSMUST00000176113.7	Lin28a	ENSMUSG0000050966	lin-28 homolog A (C. elegans) Source MGI Symbol Acc MGI 1890546
D01	SBM0676241	ENSMUST00000144988.7	Meis1	ENSMUSG0000020160	Meis homeobox 1 Source MGI Symbol Acc MGI 104717
D02	SBM0926120	ENSMUST00000032760.5	Mesp1	ENSMUSG0000030544	mesoderm posterior 1 Source MGI Symbol Acc MGI 107785
D03	SBM0675821	ENSMUST00000027778.7	Mix1	ENSMUSG0000026497	Mix1 homeobox-like 1 (Xenopus laevis) Source MGI Symbol Acc MGI 1351322
D04	SBM0786144	ENSMUST00000137620.1	Mybl2	ENSMUSG0000017861	myeloblastosis oncogene-like 2 Source MGI Symbol Acc MGI 101785
D05	SBM0987162	ENSMUST00000159338.1	Myc	ENSMUSG0000022346	myelocytomatosis oncogene Source MGI Symbol Acc MGI 97250
D06	SBM0847322	ENSMUST00000072514.2	Myod1	ENSMUSG0000009471	myogenic differentiation 1 Source MGI Symbol Acc MGI 97275
D07	SBM0911915	ENSMUST00000012540.4	Nanog	ENSMUSG0000012396	Nanog homeobox Source MGI Symbol Acc MGI 1919200
D08	SBM1225395	ENSMUST00000114476.7	Ncam1	ENSMUSG0000039542	neural cell adhesion molecule 1 Source MGI Symbol Acc MGI 97281
D09	SBM0981462	ENSMUST00000160694.1	Nes	ENSMUSG0000004891	nestin Source MGI Symbol Acc MGI 101784
D10	SBM0885289	ENSMUST00000015723.4	Nkx2-5	ENSMUSG0000015579	NK2 homeobox 5 Source MGI Symbol Acc MGI 97350
D11	SBM1030453	ENSMUST00000026036.4	Nr0b1	ENSMUSG0000025056	nuclear receptor subfamily 0, group B, member 1 Source MGI Symbol Acc MGI 1352460
D12	SBM1044804	ENSMUST00000192357.5	Nr5a2	ENSMUSG0000026398	nuclear receptor subfamily 5, group A, member 2 Source MGI Symbol Acc MGI 1346834
E01	SBM0748204	ENSMUST00000076275.10	Nr6a1	ENSMUSG0000063972	nuclear receptor subfamily 6, group A, member 1 Source MGI Symbol Acc MGI 1352459
E02	SBM1019601	ENSMUST00000187166.1	Nt5e	ENSMUSG0000032420	5 nucleotidase, ecto Source MGI Symbol Acc MGI 99782
E03	SBM1006161	ENSMUST00000035608.9	Olig2	ENSMUSG0000039830	oligodendrocyte transcription factor 2 Source MGI Symbol Acc MGI 1355331
E04	SBM0756130	ENSMUST00000119739.1	Otx2	ENSMUSG0000021848	orthodenticle homeobox 2 Source MGI Symbol Acc MGI 97451
E05	SBM0706967	ENSMUST00000003529.8	Paf1	ENSMUSG0000003437	Paf1, RNA polymerase II complex component Source MGI Symbol Acc MGI 1923988
E06	SBM0924606	ENSMUST00000090391.12	Pax6	ENSMUSG0000027168	paired box 6 Source MGI Symbol Acc MGI 97490
E07	SBM0857412	ENSMUST00000173805.7	Pou5f1	ENSMUSG0000024406	POU domain, class 5, transcription factor 1 Source MGI Symbol Acc MGI 101893
E08	SBM0963355	ENSMUST00000047577.6	Prdm14	ENSMUSG0000042414	PR domain containing 14 Source MGI Symbol Acc MGI 3588194
E09	SBM0719220	ENSMUST00000112693.9	Rif1	ENSMUSG0000036202	replication timing regulatory factor 1 Source MGI Symbol Acc MGI 1098622
E10	SBM0935430	ENSMUST00000103074.1	Sall4	ENSMUSG0000027547	spalt like transcription factor 4 Source MGI Symbol Acc MGI 2139360
E11	SBM0826538	ENSMUST00000112366.7	Scn1a	ENSMUSG0000064329	sodium channel, voltage-gated, type I, alpha Source MGI Symbol Acc MGI 98246
E12	SBM0887383	ENSMUST00000109885.7	Smad1	ENSMUSG0000031681	SMAD family member 1 Source MGI Symbol Acc MGI 109452
F01	SBM1009250	ENSMUST00000165084.7	Smad2	ENSMUSG0000024563	SMAD family member 2 Source MGI Symbol Acc MGI 108051
F02	SBM1002783	ENSMUST00000034973.9	Smad3	ENSMUSG0000032402	SMAD family member 3 Source MGI Symbol Acc MGI 1201674
F03	SBM0792377	ENSMUST00000047373.5	Sox15	ENSMUSG0000041287	SRY (sex determining region Y)-box 15 Source MGI Symbol Acc MGI 98363
F04	SBM0762251	ENSMUST00000191647.1	Sox17	ENSMUSG0000025902	SRY (sex determining region Y)-box 17 Source MGI Symbol Acc MGI 107543
F05	SBM0819160	ENSMUST00000099151.5	Sox2	ENSMUSG0000074637	SRY (sex determining region Y)-box 2 Source MGI Symbol Acc MGI 98364
F06	SBM0702713	ENSMUST00000135107.3	Sox3	ENSMUSG0000045179	SRY (sex determining region Y)-box 3 Source MGI Symbol Acc MGI 98365
F07	SBM1051869	ENSMUST00000079652.6	Sox7	ENSMUSG0000063060	SRY (sex determining region Y)-box 7 Source MGI Symbol Acc MGI 98369
F08	SBM0821931	ENSMUST00000103114.7	Stat3	ENSMUSG0000004040	signal transducer and activator of transcription 3 Source MGI Symbol Acc MGI 103038
F09	SBM0804890	ENSMUST00000074667.8	T	ENSMUSG0000062327	brachyury, T-box transcription factor T Source MGI Symbol Acc MGI 98472
F10	SBM0866636	ENSMUST00000216035.1	Tagln	ENSMUSG0000032085	transgelin Source MGI Symbol Acc MGI 106012

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBM0749408	ENSMUST00000161601.7	Tal1	ENSMUSG0000028717	T cell acute lymphocytic leukemia 1 Source MGI Symbol Acc MGI 98480
F12	SBM1043112	ENSMUST00000001720.13	Tat	ENSMUSG0000001670	tyrosine aminotransferase Source MGI Symbol Acc MGI 98487
G01	SBM1066415	ENSMUST00000121021.7	Tbx3	ENSMUSG0000018604	T-box 3 Source MGI Symbol Acc MGI 98495
G02	SBM0875574	ENSMUST00000105340.7	Tcf3	ENSMUSG0000020167	transcription factor 3 Source MGI Symbol Acc MGI 98510
G03	SBM0757991	ENSMUST00000175652.1	Tcl1	ENSMUSG0000041359	T cell lymphoma breakpoint 1 Source MGI Symbol Acc MGI 1097166
G04	SBM1058699	ENSMUST00000035075.12	Tdgf1	ENSMUSG00000032494	teratocarcinoma-derived growth factor 1 Source MGI Symbol Acc MGI 98658
G05	SBM0875032	ENSMUST00000131958.1	Tek	ENSMUSG0000006386	TEK receptor tyrosine kinase Source MGI Symbol Acc MGI 98664
G06	SBM0871763	ENSMUST00000223303.1	Tert	ENSMUSG0000021611	telomerase reverse transcriptase Source MGI Symbol Acc MGI 1202709
G07	SBM0883308	ENSMUST00000040445.8	Thap11	ENSMUSG00000036442	THAP domain containing 11 Source MGI Symbol Acc MGI 1930964
G08	SBM0937058	ENSMUST00000215156.1	Thy1	ENSMUSG00000032011	thymus cell antigen 1, theta Source MGI Symbol Acc MGI 98747
G09	SBM0733400	ENSMUST00000128951.8	Trim28	ENSMUSG0000005566	tripartite motif-containing 28 Source MGI Symbol Acc MGI 109274
G10	SBM0920265	ENSMUST00000168457.2	Uf1	ENSMUSG0000047751	undifferentiated embryonic cell transcription factor 1 Source MGI Symbol Acc MGI 1276125
G11	SBM0937462	ENSMUST00000211248.1	Zfp42	ENSMUSG00000051176	zinc finger protein 42 Source MGI Symbol Acc MGI 99187
G12	SBM0742940	ENSMUST00000113925.7	Zfx	ENSMUSG00000079509	zinc finger protein X-linked Source MGI Symbol Acc MGI 99211
H01	SBM1220560	ENSMUST00000100497.10	Actb	ENSMUSG00000029580	actin, beta Source MGI Symbol Acc MGI 87904
H02	SBM0675336	ENSMUST00000102476.4	B2m	ENSMUSG00000060802	beta-2 microglobulin Source MGI Symbol Acc MGI 88127
H03	SBM1220562	ENSMUST00000117757.8	Gapdh	ENSMUSG00000057666	glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640
H04	SBM1220563	ENSMUST00000026613.13	Gusb	ENSMUSG00000025534	glucuronidase, beta Source MGI Symbol Acc MGI 95872
H05	SBM1220564	ENSMUST00000166469.7	Hsp90ab1	ENSMUSG00000023944	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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