

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

## Mouse Mesenchymal Stem Cells

Cat. no. 249950 SBMM-082ZR

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	Abcb1a	Alcam	Anpep	Anxa5	Bdnf	Bglap	Bmp2	Bmp4	Bmp6	Bmp7	Casp3	Cd44
B	Col1a1	Csf2	Csf3	Clnnb1	Egf	Eng	ErbB2	Fgf10	Fgf2	Fut1	Fut4	Fzd9
C	Gdf15	Gdf5	Gdf6	Gdf7	Gdf3a	Hat1	Hdac1	Hgf	Hnf1a	Icam1	Ifng	Igf1
D	Il10	Il1b	Il6	Ins2	Itga6	Itgav	Itgax	Itgb1	Jag1	Kat2b	Kdr	Kilf
E	Lif	Mcam	Mif	Mmp2	Nes	Ngfr	Notch1	Nt5e	Nudt6	Pdgfra	Pigs	Pou5f1
F	Pparg	Prom1	Plk2	Ptprc	Rhoa	Runs2	Slc17a5	Smad4	Smurf1	Smurf2	Sox2	Sox9
G	Tbx5	Tert	Tgfb1	Tgfb3	Tty1	Tnf	Vcam1	Vegfa	Vim	Vwf	Wnt3a	Zfp42
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	SBM1065613	ENSMUST00000126846.1	Abcb1a	ENSMUSG0000040584	ATP-binding cassette, sub-family B (MDR/TAP), member 1A Source MGI Symbol Acc MGI 97570
A02	SBM0797639	ENSMUST00000168071.1	Alcam	ENSMUSG0000022636	activated leukocyte cell adhesion molecule Source MGI Symbol Acc MGI 1313266
A03	SBM0744926	ENSMUST0000049004.7	Anpep	ENSMUSG0000039062	alanyl (membrane) aminopeptidase Source MGI Symbol Acc MGI 5000466
A04	SBM1073515	ENSMUST00000199478.1	Anxa5	ENSMUSG0000027712	annexin A5 Source MGI Symbol Acc MGI 106008
A05	SBM0985592	ENSMUST00000111042.2	Bdnf	ENSMUSG0000048482	brain derived neurotrophic factor Source MGI Symbol Acc MGI 88145
A06	SBM0768580	ENSMUST00000076048.4	Bglap	ENSMUSG0000074483	bone gamma carboxyglutamate protein Source MGI Symbol Acc MGI 88156
A07	SBM0831820	ENSMUST0000028836.6	Bmp2	ENSMUSG0000027358	bone morphogenetic protein 2 Source MGI Symbol Acc MGI 88177
A08	SBM0845886	ENSMUST00000100676.2	Bmp4	ENSMUSG0000021835	bone morphogenetic protein 4 Source MGI Symbol Acc MGI 88180
A09	SBM0892506	ENSMUST00000171970.2	Bmp6	ENSMUSG0000039004	bone morphogenetic protein 6 Source MGI Symbol Acc MGI 88182
A10	SBM1004016	ENSMUST00000137247.1	Bmp7	ENSMUSG0000008999	bone morphogenetic protein 7 Source MGI Symbol Acc MGI 103302
A11	SBM0732165	ENSMUST00000093517.6	Casp3	ENSMUSG0000031628	caspase 3 Source MGI Symbol Acc MGI 107739
A12	SBM0860996	ENSMUST00000111194.7	Cd44	ENSMUSG0000005087	CD44 antigen Source MGI Symbol Acc MGI 88338
B01	SBM0911341	ENSMUST00000139974.1	Col1a1	ENSMUSG0000001506	collagen, type I, alpha 1 Source MGI Symbol Acc MGI 88467
B02	SBM1080991	ENSMUST00000019060.5	Csf2	ENSMUSG0000018916	colony stimulating factor 2 (granulocyte-macrophage) Source MGI Symbol Acc MGI 1339752
B03	SBM0837472	ENSMUST00000038886.2	Csf3	ENSMUSG0000038067	colony stimulating factor 3 (granulocyte) Source MGI Symbol Acc MGI 1339751
B04	SBM1021462	ENSMUST00000007130.14	Cttnb1	ENSMUSG0000006932	catenin (cadherin associated protein), beta 1 Source MGI Symbol Acc MGI 88276
B05	SBM1005237	ENSMUST00000197079.4	Egf	ENSMUSG0000028017	epidermal growth factor Source MGI Symbol Acc MGI 95290
B06	SBM0877670	ENSMUST00000156306.1	Eng	ENSMUSG0000026814	endoglin Source MGI Symbol Acc MGI 95392
B07	SBM0761323	ENSMUST00000136032.1	ErbB2	ENSMUSG0000062312	erb-b2 receptor tyrosine kinase 2 Source MGI Symbol Acc MGI 95410
B08	SBM0904863	ENSMUST00000128103.8	Fgf10	ENSMUSG0000021732	fibroblast growth factor 10 Source MGI Symbol Acc MGI 1099809
B09	SBM0959713	ENSMUST00000138563.8	Fgf2	ENSMUSG0000037225	fibroblast growth factor 2 Source MGI Symbol Acc MGI 95516
B10	SBM0850340	ENSMUST00000209379.1	Fut1	ENSMUSG0000008461	fucosyltransferase 1 Source MGI Symbol Acc MGI 109375
B11	SBM0957252	ENSMUST00000061498.6	Fut4	ENSMUSG0000049307	fucosyltransferase 4 Source MGI Symbol Acc MGI 95594
B12	SBM1068165	ENSMUST00000062572.2	Fzd9	ENSMUSG0000049551	frizzled class receptor 9 Source MGI Symbol Acc MGI 1313278
C01	SBM1020220	ENSMUST00000003808.7	Gdf15	ENSMUSG0000038508	growth differentiation factor 15 Source MGI Symbol Acc MGI 1346047
C02	SBM0811347	ENSMUST00000040162.2	Gdf5	ENSMUSG0000038259	growth differentiation factor 5 Source MGI Symbol Acc MGI 95688
C03	SBM0980725	ENSMUST00000057613.2	Gdf6	ENSMUSG0000051279	growth differentiation factor 6 Source MGI Symbol Acc MGI 95689
C04	SBM0694335	ENSMUST00000220073.1	Gdf7	ENSMUSG0000037660	growth differentiation factor 7 Source MGI Symbol Acc MGI 95690
C05	SBM0884391	ENSMUST00000133682.7	Gtf3a	ENSMUSG0000016503	general transcription factor III A Source MGI Symbol Acc MGI 1913846
C06	SBM1043743	ENSMUST00000112122.8	Hat1	ENSMUSG0000027018	histone aminotransferase 1 Source MGI Symbol Acc MGI 96013
C07	SBM0727728	ENSMUST00000132909.1	Hdac1	ENSMUSG0000028800	histone deacetylase 1 Source MGI Symbol Acc MGI 108086
C08	SBM0858725	ENSMUST00000200189.4	Hgf	ENSMUSG0000028864	hepatocyte growth factor Source MGI Symbol Acc MGI 96079
C09	SBM0710804	ENSMUST00000176550.1	Hnf1a	ENSMUSG0000029556	HNF1 homeobox A Source MGI Symbol Acc MGI 98504
C10	SBM0806584	ENSMUST00000215003.1	Icam1	ENSMUSG0000037405	intercellular adhesion molecule 1 Source MGI Symbol Acc MGI 96392
		ENSMUST00000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBM0903694	068592.4	lfng	000055170	interferon gamma Source MGI Symbol Acc MGI 107656
C12	SBM1026650	ENSMUST00000122386.7	lgf1	ENSMUSG0000020053	insulin-like growth factor 1 Source MGI Symbol Acc MGI 96432
D01	SBM1004151	ENSMUST00000016673.5	Il10	ENSMUSG0000016529	interleukin 10 Source MGI Symbol Acc MGI 96537
D02	SBM0738485	ENSMUST00000028881.13	Il1b	ENSMUSG0000027398	interleukin 1 beta Source MGI Symbol Acc MGI 96543
D03	SBM0742623	ENSMUST00000026845.11	Il6	ENSMUSG0000025746	interleukin 6 Source MGI Symbol Acc MGI 96559
D04	SBM0867142	ENSMUST000000125933.1	Ins2	ENSMUSG0000000215	insulin II Source MGI Symbol Acc MGI 96573
D05	SBM0759318	ENSMUST00000028522.9	Itga6	ENSMUSG0000027111	integrin alpha 6 Source MGI Symbol Acc MGI 96605
D06	SBM0710817	ENSMUST000000151463.1	Itgav	ENSMUSG0000027087	integrin alpha V Source MGI Symbol Acc MGI 96608
D07	SBM0923673	ENSMUST00000033053.7	Itgax	ENSMUSG0000030789	integrin alpha X Source MGI Symbol Acc MGI 96609
D08	SBM0691612	ENSMUST00000090006.11	Itgb1	ENSMUSG0000025809	integrin beta 1 (fibronectin receptor beta) Source MGI Symbol Acc MGI 96610
D09	SBM0986327	ENSMUST00000028735.7	Jag1	ENSMUSG0000027276	jagged 1 Source MGI Symbol Acc MGI 1095416
D10	SBM0894234	ENSMUST000000171072.1	Kat2b	ENSMUSG0000000708	K(llysine) acetyltransferase 2B Source MGI Symbol Acc MGI 1343094
D11	SBM0947462	ENSMUST000000149573.1	Kdr	ENSMUSG0000062960	kinase insert domain protein receptor Source MGI Symbol Acc MGI 96683
D12	SBM0685433	ENSMUST000000105283.8	Kitl	ENSMUSG0000019966	kit ligand Source MGI Symbol Acc MGI 96974
E01	SBM0873612	ENSMUST00000066283.11	Lif	ENSMUSG0000034394	leukemia inhibitory factor Source MGI Symbol Acc MGI 96787
E02	SBM0892832	ENSMUST00000034650.14	Mcam	ENSMUSG0000032135	melanoma cell adhesion molecule Source MGI Symbol Acc MGI 1933966
E03	SBM1054907	ENSMUST000000139462.1	Miff	ENSMUSG0000035158	melanogenesis associated transcription factor Source MGI Symbol Acc MGI 104554
E04	SBM0690200	ENSMUST00000034187.8	Mmp2	ENSMUSG0000031740	matrix metalloproteinase 2 Source MGI Symbol Acc MGI 97009
E05	SBM0981462	ENSMUST000000160694.1	Nes	ENSMUSG0000004891	nestin Source MGI Symbol Acc MGI 101784
E06	SBM0740409	ENSMUST00000000122.6	Ngfr	ENSMUSG0000000120	nerve growth factor receptor (TNFR superfamily, member 16) Source MGI Symbol Acc MGI 97323
E07	SBM1060528	ENSMUST000000132820.1	Notch1	ENSMUSG0000026923	notch 1 Source MGI Symbol Acc MGI 97363
E08	SBM1019601	ENSMUST000000187166.1	Nt5e	ENSMUSG0000032420	5 nucleotidase, ecto Source MGI Symbol Acc MGI 99782
E09	SBM0924577	ENSMUST000000108118.8	Nudt6	ENSMUSG0000050174	nudix (nucleoside diphosphate linked moiety X)-type motif 6 Source MGI Symbol Acc MGI 2387618
E10	SBM0934218	ENSMUST00000025522.10	Pdgfrb	ENSMUSG0000024620	platelet derived growth factor receptor, beta polypeptide Source MGI Symbol Acc MGI 97531
E11	SBM0815157	ENSMUST00000048073.8	Pigs	ENSMUSG0000041958	phosphatidylinositol glycan anchor biosynthesis, class 5 Source MGI Symbol Acc MGI 2687325
E12	SBM0857412	ENSMUST000000173805.7	Pou5f1	ENSMUSG0000024406	POU domain, class 5, transcription factor 1 Source MGI Symbol Acc MGI 101893
F01	SBM1015614	ENSMUST000000205213.2	Pparg	ENSMUSG0000000440	peroxisome proliferator activated receptor gamma Source MGI Symbol Acc MGI 97747
F02	SBM0800939	ENSMUST000000165909.7	Prom1	ENSMUSG0000029086	prominin 1 Source MGI Symbol Acc MGI 1100886
F03	SBM0988125	ENSMUST000000227569.1	Ptk2	ENSMUSG0000022607	PTK2 protein tyrosine kinase 2 Source MGI Symbol Acc MGI 95481
F04	SBM0851018	ENSMUST000000183229.2	Ptprc	ENSMUSG0000026395	protein tyrosine phosphatase, receptor type, C Source MGI Symbol Acc MGI 97810
F05	SBM0943773	ENSMUST000000194701.5	Rhoa	ENSMUSG0000007815	ras homolog family member A Source MGI Symbol Acc MGI 1096342
F06	SBM0865204	ENSMUST000000113571.9	Runx2	ENSMUSG0000039153	runt related transcription factor 2 Source MGI Symbol Acc MGI 99829
F07	SBM0691161	ENSMUST00000052441.11	Slc17a5	ENSMUSG0000049624	solute carrier family 17 (anion/sugar transporter), member 5 Source MGI Symbol Acc MGI 1924105
F08	SBM1071100	ENSMUST000000114939.1	Smad4	ENSMUSG0000024515	SMAD family member 4 Source MGI Symbol Acc MGI 894293
F09	SBM0958661	ENSMUST000000110677.7	Smurf1	ENSMUSG0000038780	SMAD specific E3 ubiquitin protein ligase 1 Source MGI Symbol Acc MGI 1923038
F10	SBM1068316	ENSMUST000000144027.1	Smurf2	ENSMUSG0000018363	SMAD specific E3 ubiquitin protein ligase 2 Source MGI Symbol Acc MGI 1913563

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBM0819160	ENSMUST00000099151.5	Sox2	ENSMUSG00000074637	SRY (sex determining region Y)-box 2 Source MGI Symbol Acc MGI 98364
F12	SBM1029433	ENSMUST00000000579.2	Sox9	ENSMUSG0000000567	SRY (sex determining region Y)-box 9 Source MGI Symbol Acc MGI 98371
G01	SBM0806199	ENSMUST00000018407.9	Tbx5	ENSMUSG0000018263	T-box 5 Source MGI Symbol Acc MGI 102541
G02	SBM0871763	ENSMUST000000223303.1	Tert	ENSMUSG00000021611	telomerase reverse transcriptase Source MGI Symbol Acc MGI 1202709
G03	SBM0850388	ENSMUST00000002678.9	Tgfb1	ENSMUSG0000002603	transforming growth factor, beta 1 Source MGI Symbol Acc MGI 98725
G04	SBM1022458	ENSMUST00000003687.7	Tgfb3	ENSMUSG00000021253	transforming growth factor, beta 3 Source MGI Symbol Acc MGI 98727
G05	SBM0937058	ENSMUST000000215156.1	Thy1	ENSMUSG00000032011	thymus cell antigen 1, theta Source MGI Symbol Acc MGI 98747
G06	SBM0788439	ENSMUST00000025263.14	Tnf	ENSMUSG00000024401	tumor necrosis factor Source MGI Symbol Acc MGI 104798
G07	SBM1225402	ENSMUST00000029574.12	Vcam1	ENSMUSG00000027962	vascular cell adhesion molecule 1 Source MGI Symbol Acc MGI 98926
G08	SBM1079198	ENSMUST000000217017.1	Vegfa	ENSMUSG00000023951	vascular endothelial growth factor A Source MGI Symbol Acc MGI 103178
G09	SBM0684573	ENSMUST00000028062.7	Vim	ENSMUSG00000026728	vimentin Source MGI Symbol Acc MGI 98932
G10	SBM0711301	ENSMUST000000150548.7	Vwf	ENSMUSG0000001930	Von Willebrand factor Source MGI Symbol Acc MGI 98941
G11	SBM0757599	ENSMUST000000010044.7	Wnt3a	ENSMUSG00000009900	wingless-type MMTV integration site family, member 3A Source MGI Symbol Acc MGI 98956
G12	SBM0937462	ENSMUST000000211248.1	Zfp42	ENSMUSG00000051176	zinc finger protein 42 Source MGI Symbol Acc MGI 99187
H01	SBM1220560	ENSMUST000000100497.10	Actb	ENSMUSG00000029580	actin, beta Source MGI Symbol Acc MGI 87904
H02	SBM0675336	ENSMUST000000102476.4	B2m	ENSMUSG00000060802	beta-2 microglobulin Source MGI Symbol Acc MGI 88127
H03	SBM1220562	ENSMUST000000117757.8	Gapdh	ENSMUSG00000057666	glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640
H04	SBM1220563	ENSMUST000000026613.13	Gusb	ENSMUSG00000025534	glucuronidase, beta Source MGI Symbol Acc MGI 95872
H05	SBM1220564	ENSMUST000000166469.7	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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