

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

## Mouse Osteogenesis

Cat. no. 249950 SBMM-026ZA

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	Acvr1	Ahsg	Alpl	Anxa5	Bglap	Bgn	Bmp1	Bmp2	Bmp3	Bmp4	Bmp5	Bmp6
B	Bmp7	Bmpr1a	Bmpr1b	Bmpr2	Cd36	Cdh11	Chrd	Col10a1	Col14a1	Col1a1	Col1a2	Col2a1
C	Col3a1	Col4a1	Col5a1	Comp	Csf1	Csf2	Csf3	Ctsk	Dlx5	Egf	Fgf1	Fgf2
D	Fgfr1	Fgfr2	Fh1	Fn1	Gdf10	Gli1	Icam1	Igf1	Igf1r	Ihh	Itga2	Itga2b
E	Itga3	Itgam	Itgav	Itgb1	Mmp10	Mmp2	Mmp8	Mmp9	Nrkb1	Nog	Pdgfra	Phex
F	Runx2	Serpinh1	Smad1	Smad2	Smad3	Smad4	Smad5	Sost	Sox9	Sp7	Spp1	Tgfb1
G	Tgfb2	Tgfb3	Tgfb1	Tgfb2	Tgfb3	Tnf	Tnfrsf11	Twist1	Vcam1	Vdr	Vegfa	Vegfb
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	SBM0844679	ENSMUST00000145495.7	Acvr1	ENSMUSG0000026836	activin A receptor, type 1 Source MGI Symbol Acc MGI 87911
A02	SBM1081776	ENSMUST0000023583.6	Ahsg	ENSMUSG0000022868	alpha-2-HS-glycoprotein Source MGI Symbol Acc MGI 107189
A03	SBM0939481	ENSMUST00000133473.1	Alpl	ENSMUSG0000028766	alkaline phosphatase, liver/bone/kidney Source MGI Symbol Acc MGI 87983
A04	SBM1073515	ENSMUST00000199478.1	Anxa5	ENSMUSG0000027712	annexin A5 Source MGI Symbol Acc MGI 106008
A05	SBM0768580	ENSMUST00000076048.4	Bglap	ENSMUSG0000074483	bone gamma carboxyglutamate protein Source MGI Symbol Acc MGI 88156
A06	SBM1041217	ENSMUST00000133394.7	Bgn	ENSMUSG0000031375	biglycan Source MGI Symbol Acc MGI 88158
A07	SBM1022339	ENSMUST0000022693.8	Bmp1	ENSMUSG0000022098	bone morphogenetic protein 1 Source MGI Symbol Acc MGI 88176
A08	SBM0831820	ENSMUST0000028836.6	Bmp2	ENSMUSG0000027358	bone morphogenetic protein 2 Source MGI Symbol Acc MGI 88177
A09	SBM0867543	ENSMUST00000200388.1	Bmp3	ENSMUSG0000029335	bone morphogenetic protein 3 Source MGI Symbol Acc MGI 88179
A10	SBM0845886	ENSMUST00000100676.2	Bmp4	ENSMUSG0000021835	bone morphogenetic protein 4 Source MGI Symbol Acc MGI 88180
A11	SBM0922578	ENSMUST00000137213.1	Bmp5	ENSMUSG0000032179	bone morphogenetic protein 5 Source MGI Symbol Acc MGI 88181
A12	SBM0892506	ENSMUST00000171970.2	Bmp6	ENSMUSG0000039004	bone morphogenetic protein 6 Source MGI Symbol Acc MGI 88182
B01	SBM1004016	ENSMUST00000137247.1	Bmp7	ENSMUSG0000008999	bone morphogenetic protein 7 Source MGI Symbol Acc MGI 103302
B02	SBM0924768	ENSMUST00000165280.7	Bmpr1a	ENSMUSG0000021796	bone morphogenetic protein receptor, type 1A Source MGI Symbol Acc MGI 1338938
B03	SBM0770064	ENSMUST00000131273.7	Bmpr1b	ENSMUSG0000052430	bone morphogenetic protein receptor, type 1B Source MGI Symbol Acc MGI 107191
B04	SBM1052934	ENSMUST00000190659.1	Bmpr2	ENSMUSG0000067336	bone morphogenetic protein receptor, type II (serine/threonine kinase) Source MGI Symbol Acc MGI 1095407
B05	SBM0818786	ENSMUST00000170051.7	Cd36	ENSMUSG0000002944	CD36 molecule Source MGI Symbol Acc MGI 107899
B06	SBM0832324	ENSMUST00000210425.1	Cdh11	ENSMUSG0000031673	cadherin 11 Source MGI Symbol Acc MGI 99217
B07	SBM1032359	ENSMUST00000153299.7	Chrd	ENSMUSG0000006958	chordin Source MGI Symbol Acc MGI 1313268
B08	SBM0799167	ENSMUST00000105511.1	Col10a1	ENSMUSG0000039462	collagen, type X, alpha 1 Source MGI Symbol Acc MGI 88445
B09	SBM0685043	ENSMUST00000125416.1	Col14a1	ENSMUSG0000022371	collagen, type XIV, alpha 1 Source MGI Symbol Acc MGI 1341272
B10	SBM0911341	ENSMUST00000139974.1	Col1a1	ENSMUSG0000001506	collagen, type I, alpha 1 Source MGI Symbol Acc MGI 88467
B11	SBM0673080	ENSMUST00000132029.1	Col1a2	ENSMUSG0000029661	collagen, type I, alpha 2 Source MGI Symbol Acc MGI 88468
B12	SBM1035677	ENSMUST00000139246.7	Col2a1	ENSMUSG0000022483	collagen, type II, alpha 1 Source MGI Symbol Acc MGI 88452
C01	SBM0704935	ENSMUST00000129611.1	Col3a1	ENSMUSG0000026043	collagen, type III, alpha 1 Source MGI Symbol Acc MGI 88453
C02	SBM0696573	ENSMUST00000209598.1	Col4a1	ENSMUSG0000031502	collagen, type IV, alpha 1 Source MGI Symbol Acc MGI 88454
C03	SBM1062999	ENSMUST0000028280.13	Col5a1	ENSMUSG0000026837	collagen, type V, alpha 1 Source MGI Symbol Acc MGI 88457
C04	SBM0945561	ENSMUST0000003659.8	Comp	ENSMUSG0000031849	cartilage oligomeric matrix protein Source MGI Symbol Acc MGI 88469
C05	SBM0903322	ENSMUST0000015555.1	Csf1	ENSMUSG0000014599	colony stimulating factor 1 (macrophage) Source MGI Symbol Acc MGI 1339753
C06	SBM1080991	ENSMUST00000019060.5	Csf2	ENSMUSG0000018916	colony stimulating factor 2 (granulocyte-macrophage) Source MGI Symbol Acc MGI 1339752
C07	SBM0837472	ENSMUST00000038886.2	Csf3	ENSMUSG0000038067	colony stimulating factor 3 (granulocyte) Source MGI Symbol Acc MGI 1339751
C08	SBM0898879	ENSMUST00000015664.4	Ctsk	ENSMUSG0000028111	cathepsin K Source MGI Symbol Acc MGI 107823
C09	SBM0940729	ENSMUST00000052609.8	Dlx5	ENSMUSG0000029755	distal-less homeobox 5 Source MGI Symbol Acc MGI 101926
C10	SBM1005237	ENSMUST00000197079.4	Egf	ENSMUSG0000028017	epidermal growth factor Source MGI Symbol Acc MGI 95290
		ENSMUST00000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBM1074617	235922.1	Fgf1	000036585	fibroblast growth factor 1 Source MGI Symbol Acc MGI 95515
C12	SBM0959713	ENSMUST00000138563.8	Fgf2	ENSMUSG0000037225	fibroblast growth factor 2 Source MGI Symbol Acc MGI 95516
D01	SBM1002495	ENSMUST00000178276.7	Fgfr1	ENSMUSG00000031565	fibroblast growth factor receptor 1 Source MGI Symbol Acc MGI 95522
D02	SBM0813645	ENSMUST00000124096.7	Fgfr2	ENSMUSG00000030849	fibroblast growth factor receptor 2 Source MGI Symbol Acc MGI 95523
D03	SBM0996637	ENSMUST00000110529.5	FIt1	ENSMUSG00000029648	FMS-like tyrosine kinase 1 Source MGI Symbol Acc MGI 95558
D04	SBM0934692	ENSMUST00000185408.6	Fn1	ENSMUSG00000026193	fibronectin 1 Source MGI Symbol Acc MGI 95566
D05	SBM0689407	ENSMUST00000168727.2	Gdf10	ENSMUSG00000021943	growth differentiation factor 10 Source MGI Symbol Acc MGI 95684
D06	SBM0738831	ENSMUST00000219671.1	Gli1	ENSMUSG00000025407	GLI-Kruppel family member GLI1 Source MGI Symbol Acc MGI 95727
D07	SBM0806584	ENSMUST00000215003.1	Icam1	ENSMUSG00000037405	intercellular adhesion molecule 1 Source MGI Symbol Acc MGI 96392
D08	SBM1026650	ENSMUST00000122386.7	Igf1	ENSMUSG00000020053	insulin-like growth factor 1 Source MGI Symbol Acc MGI 96432
D09	SBM0769269	ENSMUST00000207621.1	Igf1r	ENSMUSG0000005533	insulin-like growth factor I receptor Source MGI Symbol Acc MGI 96433
D10	SBM0820771	ENSMUST00000189364.1	Ihh	ENSMUSG0000006538	Indian hedgehog Source MGI Symbol Acc MGI 96533
D11	SBM1002416	ENSMUST00000056117.9	Itga2	ENSMUSG00000015533	integrin alpha 2 Source MGI Symbol Acc MGI 96600
D12	SBM1007596	ENSMUST00000149519.7	Itga2b	ENSMUSG00000034664	integrin alpha 2b Source MGI Symbol Acc MGI 96601
E01	SBM0845438	ENSMUST00000140342.1	Itga3	ENSMUSG00000001507	integrin alpha 3 Source MGI Symbol Acc MGI 96602
E02	SBM0730179	ENSMUST00000156593.2	Itgam	ENSMUSG00000030786	integrin alpha M Source MGI Symbol Acc MGI 96607
E03	SBM0710817	ENSMUST00000151463.1	Itgav	ENSMUSG00000027087	integrin alpha V Source MGI Symbol Acc MGI 96608
E04	SBM0691612	ENSMUST00000090006.11	Itgb1	ENSMUSG00000025809	integrin beta 1 (fibronectin receptor beta) Source MGI Symbol Acc MGI 96610
E05	SBM0917028	ENSMUST00000034488.3	Mmp10	ENSMUSG00000047562	matrix metalloproteinase 10 Source MGI Symbol Acc MGI 97007
E06	SBM0690200	ENSMUST00000034187.8	Mmp2	ENSMUSG00000031740	matrix metalloproteinase 2 Source MGI Symbol Acc MGI 97009
E07	SBM0782006	ENSMUST00000018765.3	Mmp8	ENSMUSG00000005800	matrix metalloproteinase 8 Source MGI Symbol Acc MGI 1202395
E08	SBM1089430	ENSMUST00000017881.2	Mmp9	ENSMUSG00000017737	matrix metalloproteinase 9 Source MGI Symbol Acc MGI 97011
E09	SBM0841870	ENSMUST00000164430.6	Nfkb1	ENSMUSG00000028163	nuclear factor of kappa light polypeptide gene enhancer in B cells 1, p105 Source MGI Symbol Acc MGI 97312
E10	SBM1083967	ENSMUST00000061728.4	Nog	ENSMUSG00000048616	noggin Source MGI Symbol Acc MGI 104327
E11	SBM0932962	ENSMUST00000124080.7	Pdgfra	ENSMUSG00000025856	platelet derived growth factor, alpha Source MGI Symbol Acc MGI 97527
E12	SBM0722355	ENSMUST00000079945.10	Phex	ENSMUSG00000057457	phosphate regulating endopeptidase homolog, X-linked Source MGI Symbol Acc MGI 107489
F01	SBM0865204	ENSMUST00000113571.9	Runx2	ENSMUSG00000039153	runt related transcription factor 2 Source MGI Symbol Acc MGI 99829
F02	SBM0790738	ENSMUST00000169437.8	Serpinh1	ENSMUSG00000070436	serine (or cysteine) peptidase inhibitor, clade H, member 1 Source MGI Symbol Acc MGI 88283
F03	SBM0887383	ENSMUST00000109885.7	Smad1	ENSMUSG00000031681	SMAD family member 1 Source MGI Symbol Acc MGI 109452
F04	SBM1009250	ENSMUST00000165084.7	Smad2	ENSMUSG00000024563	SMAD family member 2 Source MGI Symbol Acc MGI 108051
F05	SBM1002783	ENSMUST00000034973.9	Smad3	ENSMUSG00000032402	SMAD family member 3 Source MGI Symbol Acc MGI 1201674
F06	SBM1071100	ENSMUST00000114939.1	Smad4	ENSMUSG00000024515	SMAD family member 4 Source MGI Symbol Acc MGI 894293
F07	SBM0732806	ENSMUST00000109876.7	Smad5	ENSMUSG00000021540	SMAD family member 5 Source MGI Symbol Acc MGI 1328787
F08	SBM0864952	ENSMUST00000001534.6	Sost	ENSMUSG00000001494	sclerostin Source MGI Symbol Acc MGI 1921749
F09	SBM1029433	ENSMUST00000000579.2	Sox9	ENSMUSG00000000567	SRY (sex determining region Y)-box 9 Source MGI Symbol Acc MGI 98371
F10	SBM0955048	ENSMUST00000229464.1	Sp7	ENSMUSG00000060284	Sp7 transcription factor 7 Source MGI Symbol Acc MGI 2153568

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBM0826950	ENSMUST00000086833.12	Spp1	ENSMUSG0000029304	secreted phosphoprotein 1 Source MGI Symbol Acc MGI 98389
F12	SBM0850388	ENSMUST00000002678.9	Tgfb1	ENSMUSG0000002603	transforming growth factor, beta 1 Source MGI Symbol Acc MGI 98725
G01	SBM0955433	ENSMUST00000194960.1	Tgfb2	ENSMUSG0000039239	transforming growth factor, beta 2 Source MGI Symbol Acc MGI 98726
G02	SBM1022458	ENSMUST00000003687.7	Tgfb3	ENSMUSG0000021253	transforming growth factor, beta 3 Source MGI Symbol Acc MGI 98727
G03	SBM0973351	ENSMUST00000044234.13	Tgfb1	ENSMUSG0000007613	transforming growth factor, beta receptor I Source MGI Symbol Acc MGI 98728
G04	SBM0784825	ENSMUST00000035014.7	Tgfb2	ENSMUSG00000032440	transforming growth factor, beta receptor II Source MGI Symbol Acc MGI 98729
G05	SBM0782468	ENSMUST00000146591.1	Tgfb3	ENSMUSG0000029287	transforming growth factor, beta receptor III Source MGI Symbol Acc MGI 104637
G06	SBM0788439	ENSMUST00000025263.14	Tnf	ENSMUSG0000024401	tumor necrosis factor Source MGI Symbol Acc MGI 104798
G07	SBM1225403	ENSMUST00000022592.7	Tnfrsf11	ENSMUSG0000022015	tumor necrosis factor (ligand) superfamily, member 11 Source MGI Symbol Acc MGI 1100089
G08	SBM0689554	ENSMUST00000049089.6	Twist1	ENSMUSG0000035799	twist basic helix-loop-helix transcription factor 1 Source MGI Symbol Acc MGI 98872
G09	SBM1225402	ENSMUST00000029574.12	Vcam1	ENSMUSG0000027962	vascular cell adhesion molecule 1 Source MGI Symbol Acc MGI 98926
G10	SBM0761592	ENSMUST00000139656.1	Vdr	ENSMUSG0000022479	vitamin D (1,25-dihydroxyvitamin D3) receptor Source MGI Symbol Acc MGI 103076
G11	SBM1079198	ENSMUST000000217017.1	Vegfa	ENSMUSG0000023951	vascular endothelial growth factor A Source MGI Symbol Acc MGI 103178
G12	SBM0920136	ENSMUST00000130048.7	Vegfb	ENSMUSG0000024962	vascular endothelial growth factor B Source MGI Symbol Acc MGI 106199
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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