

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

## Mouse Epithelial to Mesenchymal Transition (EMT)

Cat. no. 249950 SBMM-090ZA

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	Ahnak	Akt1	Bmp1	Bmp7	Cald1	Camk2n1	Cav2	Cdh1	Cdh2	Colla2	Col3a1	Col5a2
B	Cttnb1	Dsc2	Dsp	Egfr	ErbB3	Esr1	F11r	Fgfbp1	Fn1	Foxc2	Fzd7	Gng11
C	Gsc	Gsk3b	Igfbp4	Il1rn	Ilk	Ilg5	Ilgav	Ilgb1	Jag1	Krt14	Krt19	Krt7
D	Mif	Mmp2	Mmp3	Mmp9	Msn	Mst1r	Map1b	Nodal	Notch1	Nudt13	Ocln	Pdgfrb
E	Plek2	Desi1	Pk2	Ptp4a1	Rac1	Rgs2	Serpine1	Gemin2	Smad2	Snai1	Snai2	Snai3
F	Sox10	Sparc	Spp1	Stat3	Steap1	Tcf4	Tcf7l1	Tipi2	Tgfb1	Tgfb2	Tgfb3	Timp1
G	Tmeff1	Tmem132a	Tspan13	Twist1	Vcan	Vim	Vps13a	Wnt11	Wnt5a	Wnt5b	Zeb1	Zeb2
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	SBM1038414	ENSMUST00000237912.1	Ahnak	ENSMUSG0000069833	AHNAK nucleoprotein (desmoyokin) Source MGI Symbol Acc MGI 1316648
A02	SBM1020452	ENSMUST00000144550.8	Akt1	ENSMUSG0000001729	thymoma viral proto-oncogene 1 Source MGI Symbol Acc MGI 87986
A03	SBM1022339	ENSMUST00000222693.8	Bmp1	ENSMUSG0000022098	bone morphogenetic protein 1 Source MGI Symbol Acc MGI 88176
A04	SBM1004016	ENSMUST00000137247.1	Bmp7	ENSMUSG0000008999	bone morphogenetic protein 7 Source MGI Symbol Acc MGI 103302
A05	SBM0900619	ENSMUST00000115027.7	Cald1	ENSMUSG0000029761	caldesmon 1 Source MGI Symbol Acc MGI 88250
A06	SBM0914335	ENSMUST00000050918.3	Camk2n1	ENSMUSG0000046447	calcium/calmodulin-dependent protein kinase II inhibitor 1 Source MGI Symbol Acc MGI 1913509
A07	SBM0700536	ENSMUST00000115462.1	Cav2	ENSMUSG0000000058	caveolin 2 Source MGI Symbol Acc MGI 107571
A08	SBM0815100	ENSMUST00000136580.1	Cdh1	ENSMUSG0000000303	cadherin 1 Source MGI Symbol Acc MGI 88354
A09	SBM0822940	ENSMUST00000025166.13	Cdh2	ENSMUSG0000024304	cadherin 2 Source MGI Symbol Acc MGI 88355
A10	SBM0673080	ENSMUST00000132029.1	Col1a2	ENSMUSG0000029661	collagen, type I, alpha 2 Source MGI Symbol Acc MGI 88468
A11	SBM0704935	ENSMUST00000129611.1	Col3a1	ENSMUSG0000026043	collagen, type III, alpha 1 Source MGI Symbol Acc MGI 88453
A12	SBM1016493	ENSMUST00000131535.1	Col5a2	ENSMUSG0000026042	collagen, type V, alpha 2 Source MGI Symbol Acc MGI 88458
B01	SBM1021462	ENSMUST00000007130.14	Ctnnb1	ENSMUSG0000006932	catenin (cadherin associated protein), beta 1 Source MGI Symbol Acc MGI 88276
B02	SBM0991235	ENSMUST00000128464.1	Dsc2	ENSMUSG0000024331	desmocollin 2 Source MGI Symbol Acc MGI 103221
B03	SBM0781162	ENSMUST00000124830.2	Dsp	ENSMUSG0000054889	desmoplakin Source MGI Symbol Acc MGI 109611
B04	SBM1033270	ENSMUST00000020329.12	Egfr	ENSMUSG0000020122	epidermal growth factor receptor Source MGI Symbol Acc MGI 95294
B05	SBM0776546	ENSMUST00000082059.6	ErbB3	ENSMUSG0000018166	erb-b2 receptor tyrosine kinase 3 Source MGI Symbol Acc MGI 95411
B06	SBM0745819	ENSMUST00000067086.13	Esr1	ENSMUSG0000019768	estrogen receptor 1 (alpha) Source MGI Symbol Acc MGI 1352467
B07	SBM1054242	ENSMUST00000043839.4	F11r	ENSMUSG0000038235	F11 receptor Source MGI Symbol Acc MGI 1321398
B08	SBM0824055	ENSMUST00000061299.8	Fgfbp1	ENSMUSG0000048373	fibroblast growth factor binding protein 1 Source MGI Symbol Acc MGI 1096350
B09	SBM0934692	ENSMUST00000185408.6	Fn1	ENSMUSG0000026193	fibronectin 1 Source MGI Symbol Acc MGI 95566
B10	SBM0872986	ENSMUST00000054691.7	Foxc2	ENSMUSG0000046714	forkhead box C2 Source MGI Symbol Acc MGI 1347481
B11	SBM1055854	ENSMUST00000114246.3	Fzd7	ENSMUSG0000041075	frizzled class receptor 7 Source MGI Symbol Acc MGI 108570
B12	SBM0887917	ENSMUST00000031670.9	Gng11	ENSMUSG0000032766	guanine nucleotide binding protein (G protein), gamma 11 Source MGI Symbol Acc MGI 1913316
C01	SBM0992498	ENSMUST00000021513.5	Gsc	ENSMUSG0000021095	goosecoid homeobox Source MGI Symbol Acc MGI 95841
C02	SBM0862470	ENSMUST00000132057.1	Gsk3b	ENSMUSG0000022812	glycogen synthase kinase 3 beta Source MGI Symbol Acc MGI 1861437
C03	SBM1030895	ENSMUST00000177092.7	Igfbp4	ENSMUSG0000017493	insulin-like growth factor binding protein 4 Source MGI Symbol Acc MGI 96439
C04	SBM0732530	ENSMUST00000142093.6	Il1rn	ENSMUSG0000026981	interleukin 1 receptor antagonist Source MGI Symbol Acc MGI 96547
C05	SBM0904671	ENSMUST00000033182.9	Ilk	ENSMUSG0000030890	integrin linked kinase Source MGI Symbol Acc MGI 1195267
C06	SBM0776835	ENSMUST00000023128.7	Itga5	ENSMUSG0000000555	integrin alpha 5 (fibronectin receptor alpha) Source MGI Symbol Acc MGI 96604
C07	SBM0710817	ENSMUST00000151463.1	Itgav	ENSMUSG0000027087	integrin alpha V Source MGI Symbol Acc MGI 96608
C08	SBM0691612	ENSMUST00000090006.11	Itgb1	ENSMUSG0000025809	integrin beta 1 (fibronectin receptor beta) Source MGI Symbol Acc MGI 96610
C09	SBM0986327	ENSMUST00000028735.7	Jag1	ENSMUSG0000027276	jagged 1 Source MGI Symbol Acc MGI 1095416
C10	SBM0899095	ENSMUST00000007272.7	Krt14	ENSMUSG0000045545	keratin 14 Source MGI Symbol Acc MGI 96688
		ENSMUST00000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBM0705809	125888.1	Krt19	000020911	keratin 19 Source MGI Symbol Acc MGI 96693
C12	SBM1011781	ENSMUST0000068904.8	Krt7	ENSMUSG0000023039	keratin 7 Source MGI Symbol Acc MGI 96704
D01	SBM1054907	ENSMUST00000139462.1	Mif	ENSMUSG00000035158	melanogenesis associated transcription factor Source MGI Symbol Acc MGI 104554
D02	SBM0690200	ENSMUST00000034187.8	Mmp2	ENSMUSG00000031740	matrix metalloproteinase 2 Source MGI Symbol Acc MGI 97009
D03	SBM1025609	ENSMUST00000034497.7	Mmp3	ENSMUSG00000043613	matrix metalloproteinase 3 Source MGI Symbol Acc MGI 97010
D04	SBM1089430	ENSMUST00000017881.2	Mmp9	ENSMUSG0000017737	matrix metalloproteinase 9 Source MGI Symbol Acc MGI 97011
D05	SBM1071206	ENSMUST00000149985.7	Msn	ENSMUSG00000031207	moesin Source MGI Symbol Acc MGI 97167
D06	SBM1050364	ENSMUST00000035203.8	Mst1r	ENSMUSG00000032584	macrophage stimulating 1 receptor (c-met-related tyrosine kinase) Source MGI Symbol Acc MGI 99614
D07	SBM1032944	ENSMUST00000224605.1	Map1b	ENSMUSG0000052727	microtubule-associated protein 1B Source MGI Symbol Acc MGI 1306778
D08	SBM1015337	ENSMUST00000049339.6	Nodal	ENSMUSG00000037171	nodal Source MGI Symbol Acc MGI 97359
D09	SBM1060528	ENSMUST00000132820.1	Notch1	ENSMUSG0000026923	notch 1 Source MGI Symbol Acc MGI 97363
D10	SBM1026185	ENSMUST00000225722.1	Nudt13	ENSMUSG00000021809	nudix (nucleoside diphosphate linked moiety X)-type motif 13 Source MGI Symbol Acc MGI 1914975
D11	SBM1083398	ENSMUST00000159515.1	Ocln	ENSMUSG00000021638	occludin Source MGI Symbol Acc MGI 106183
D12	SBM0934218	ENSMUST00000025522.10	Pdgfrb	ENSMUSG00000024620	platelet derived growth factor receptor, beta polypeptide Source MGI Symbol Acc MGI 97531
E01	SBM0780689	ENSMUST00000021544.7	Plek2	ENSMUSG00000021118	pleckstrin 2 Source MGI Symbol Acc MGI 1351466
E02	SBM0834165	ENSMUST00000089187.6	Desi1	ENSMUSG00000022472	desumoylating isopeptidase 1 Source MGI Symbol Acc MGI 106313
E03	SBM0988125	ENSMUST00000227569.1	Ptk2	ENSMUSG0000022607	PTK2 protein tyrosine kinase 2 Source MGI Symbol Acc MGI 95481
E04	SBM0784137	ENSMUST00000027232.14	Ptp4a1	ENSMUSG0000117310	protein tyrosine phosphatase 4a1 Source NCBI gene Acc 19243
E05	SBM0680406	ENSMUST00000145709.7	Rac1	ENSMUSG0000001847	Rac family small GTPase 1 Source MGI Symbol Acc MGI 97845
E06	SBM1066056	ENSMUST00000134817.1	Rgs2	ENSMUSG00000026360	regulator of G-protein signaling 2 Source MGI Symbol Acc MGI 1098271
E07	SBM0809699	ENSMUST00000041388.10	Serpine1	ENSMUSG00000037411	serine (or cysteine) peptidase inhibitor, clade E, member 1 Source MGI Symbol Acc MGI 97608
E08	SBM0823973	ENSMUST00000182710.1	Gemin2	ENSMUSG00000060121	gem nuclear organelle associated protein 2 Source MGI Symbol Acc MGI 1913853
E09	SBM1009250	ENSMUST00000165084.7	Smad2	ENSMUSG00000024563	SMAD family member 2 Source MGI Symbol Acc MGI 108051
E10	SBM0756361	ENSMUST00000052631.7	Snai1	ENSMUSG00000042821	snail family zinc finger 1 Source MGI Symbol Acc MGI 98330
E11	SBM0992194	ENSMUST00000023356.7	Snai2	ENSMUSG00000022676	snail family zinc finger 2 Source MGI Symbol Acc MGI 1096393
E12	SBM0930619	ENSMUST00000006762.6	Snai3	ENSMUSG0000006587	snail family zinc finger 3 Source MGI Symbol Acc MGI 1353563
F01	SBM0924103	ENSMUST00000040019.4	Sox10	ENSMUSG00000033006	SRY (sex determining region Y)-box 10 Source MGI Symbol Acc MGI 98358
F02	SBM0767527	ENSMUST00000108858.7	Sparc	ENSMUSG0000018593	secreted acidic cysteine rich glycoprotein Source MGI Symbol Acc MGI 98373
F03	SBM0826950	ENSMUST00000086833.12	Spp1	ENSMUSG00000029304	secreted phosphoprotein 1 Source MGI Symbol Acc MGI 98389
F04	SBM0821931	ENSMUST00000103114.7	Stat3	ENSMUSG0000004040	signal transducer and activator of transcription 3 Source MGI Symbol Acc MGI 103038
F05	SBM0985642	ENSMUST00000015796.8	Steap1	ENSMUSG0000015652	six transmembrane epithelial antigen of the prostate 1 Source MGI Symbol Acc MGI 1917608
F06	SBM0803388	ENSMUST00000114982.7	Tcf4	ENSMUSG00000053477	transcription factor 4 Source MGI Symbol Acc MGI 98506
F07	SBM0729086	ENSMUST00000141743.1	Tcf7l1	ENSMUSG00000055799	transcription factor 7 like 1 (T cell specific, HMG box) Source MGI Symbol Acc MGI 1202876
F08	SBM1085441	ENSMUST00000203257.1	Tfpi2	ENSMUSG00000029664	tissue factor pathway inhibitor 2 Source MGI Symbol Acc MGI 108543
F09	SBM0850388	ENSMUST00000002678.9	Tgfb1	ENSMUSG0000002603	transforming growth factor, beta 1 Source MGI Symbol Acc MGI 98725
F10	SBM0955433	ENSMUST00000194960.1	Tgfb2	ENSMUSG00000039239	transforming growth factor, beta 2 Source MGI Symbol Acc MGI 98726

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBM1022458	ENSMUST00000003687.7	Tgfb3	ENSMUSG0000021253	transforming growth factor, beta 3 Source MGI Symbol Acc MGI 98727
F12	SBM0839007	ENSMUST00000115342.9	Timp1	ENSMUSG00000011131	tissue inhibitor of metalloproteinase 1 Source MGI Symbol Acc MGI 98752
G01	SBM1024617	ENSMUST00000030032.12	Tmeff1	ENSMUSG0000028347	transmembrane protein with EGF-like and two follistatin-like domains 1 Source MGI Symbol Acc MGI 1926810
G02	SBM0924789	ENSMUST00000120524.1	Tmem132a	ENSMUSG0000024736	transmembrane protein 132A Source MGI Symbol Acc MGI 2147810
G03	SBM1076307	ENSMUST00000220641.1	Tspan13	ENSMUSG0000020577	tetraspanin 13 Source MGI Symbol Acc MGI 1913359
G04	SBM0689554	ENSMUST00000049089.6	Twist1	ENSMUSG0000035799	twist basic helix-loop-helix transcription factor 1 Source MGI Symbol Acc MGI 98872
G05	SBM0833847	ENSMUST00000162715.1	Vcan	ENSMUSG0000021614	versican Source MGI Symbol Acc MGI 102889
G06	SBM0684573	ENSMUST00000028062.7	Vim	ENSMUSG0000026728	vimentin Source MGI Symbol Acc MGI 98932
G07	SBM0865341	ENSMUST00000224428.1	Vps13a	ENSMUSG0000046230	vacuolar protein sorting 13A Source MGI Symbol Acc MGI 2444304
G08	SBM0972544	ENSMUST00000067495.8	Wnt11	ENSMUSG0000015957	wingless-type MMTV integration site family, member 11 Source MGI Symbol Acc MGI 101948
G09	SBM0893772	ENSMUST00000112272.1	Wnt5a	ENSMUSG0000021994	wingless-type MMTV integration site family, member 5A Source MGI Symbol Acc MGI 98958
G10	SBM0831789	ENSMUST00000118120.7	Wnt5b	ENSMUSG0000030170	wingless-type MMTV integration site family, member 5B Source MGI Symbol Acc MGI 98959
G11	SBM0746940	ENSMUST00000159390.7	Zeb1	ENSMUSG0000024238	zinc finger E-box binding homeobox 1 Source MGI Symbol Acc MGI 1344313
G12	SBM1061696	ENSMUST00000076836.12	Zeb2	ENSMUSG0000026872	zinc finger E-box binding homeobox 2 Source MGI Symbol Acc MGI 1344407
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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