

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

## Mouse PI3K-AKT Signaling Pathway

Cat. no. 249950 SBMM-058ZA

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	Adar	Akt1	Akt2	Akt3	Apc	Bcl2	Bcl6	Casp9	Ccnd1	Cd14	Cdc42	Cdkn1b
B	Chuk	Csnk2a1	Cttnb1	Eif2ak2	Eif4b	Eif4e	Eif4ebp1	Eif4g1	Elk1	Fasf	Fkbp1a	Fos
C	Foxo1	Foxo3	Gja1	Grb10	Grb2	Gsk3b	Hras	Hspb1	Igf1	Igf1r	Ilk	Irak1
D	Irs1	Irgb1	Jun	Map2k1	Mapk1	Mapk14	Mapk3	Mapk8	Mtsp1	Mtor	Myd88	Nfkb1
E	Nfkbia	Palbpc1	Pak1	Pdgfra	Pdk1	Pdk2	Pdpk1	Pik3ca	Pik3cg	Pik3r1	Pik3r2	Prkca
F	Prkcb	Prkcz	Pten	Plk2	Ptpn11	Rac1	Raf1	Rosa1	Rb12	Rheb	Rhoa	Rps6ka1
G	Rps6kb1	Shc1	Sos1	Srf	Tcl1	Tirap	Tlr4	Tollip	Tsc1	Tsc2	Wasf	Ywhah
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	SBM0984683	ENSMUST00000107405.5	Adar	ENSMUSG0000027951	adenosine deaminase, RNA-specific Source MGI Symbol Acc MGI 1889575
A02	SBM1020452	ENSMUST00000144550.8	Akt1	ENSMUSG0000001729	thymoma viral proto-oncogene 1 Source MGI Symbol Acc MGI 87986
A03	SBM0882867	ENSMUST00000051356.11	Akt2	ENSMUSG0000004056	thymoma viral proto-oncogene 2 Source MGI Symbol Acc MGI 104874
A04	SBM0683049	ENSMUST00000019843.14	Akt3	ENSMUSG0000019699	thymoma viral proto-oncogene 3 Source MGI Symbol Acc MGI 1345147
A05	SBM0782035	ENSMUST00000079362.12	Apc	ENSMUSG0000005871	APC, WNT signaling pathway regulator Source MGI Symbol Acc MGI 88039
A06	SBM0983531	ENSMUST000000238184.1	Bad	ENSMUSG0000024959	BCL2-associated agonist of cell death Source MGI Symbol Acc MGI 1096330
A07	SBM1000019	ENSMUST000000033617.12	Btk	ENSMUSG00000031264	Bruton agammaglobulinemia tyrosine kinase Source MGI Symbol Acc MGI 88216
A08	SBM0686567	ENSMUST000000097805.10	Casp9	ENSMUSG0000028914	caspase 9 Source MGI Symbol Acc MGI 1277950
A09	SBM0706150	ENSMUST000000093962.4	Ccnd1	ENSMUSG0000070348	cyclin D1 Source MGI Symbol Acc MGI 88313
A10	SBM0904854	ENSMUST000000061829.7	Cd14	ENSMUSG0000051439	CD14 antigen Source MGI Symbol Acc MGI 88318
A11	SBM1071094	ENSMUST000000030417.9	Cdc42	ENSMUSG0000006699	cell division cycle 42 Source MGI Symbol Acc MGI 106211
A12	SBM1006924	ENSMUST000000067327.10	Cdkn1b	ENSMUSG0000003031	cyclin-dependent kinase inhibitor 1B Source MGI Symbol Acc MGI 104565
B01	SBM1034080	ENSMUST000000026217.10	Chuk	ENSMUSG0000025199	conserved helix-loop-helix ubiquitous kinase Source MGI Symbol Acc MGI 99484
B02	SBM0956396	ENSMUST000000124791.7	Csnk2a1	ENSMUSG0000074698	casein kinase 2, alpha 1 polypeptide Source MGI Symbol Acc MGI 88543
B03	SBM1021462	ENSMUST000000007130.14	Ctnnb1	ENSMUSG0000006932	catenin (cadherin associated protein), beta 1 Source MGI Symbol Acc MGI 88276
B04	SBM1072371	ENSMUST000000024884.4	Eif2ak2	ENSMUSG0000024079	eukaryotic translation initiation factor 2-alpha kinase 2 Source MGI Symbol Acc MGI 1353449
B05	SBM0850376	ENSMUST000000229400.1	Eif4b	ENSMUSG0000058655	eukaryotic translation initiation factor 4B Source MGI Symbol Acc MGI 95304
B06	SBM0964655	ENSMUST000000198252.1	Eif4e	ENSMUSG0000028156	eukaryotic translation initiation factor 4E Source MGI Symbol Acc MGI 95305
B07	SBM1066112	ENSMUST000000033880.6	Eif4ebp1	ENSMUSG00000031490	eukaryotic translation initiation factor 4E binding protein 1 Source MGI Symbol Acc MGI 103267
B08	SBM0687883	ENSMUST000000136713.4	Eif4g1	ENSMUSG0000045983	eukaryotic translation initiation factor 4, gamma 1 Source MGI Symbol Acc MGI 2384784
B09	SBM0783393	ENSMUST000000009550.13	Elk1	ENSMUSG0000009406	ELK1, member of ETS oncogene family Source MGI Symbol Acc MGI 101833
B10	SBM0967876	ENSMUST000000000834.3	FasL	ENSMUSG0000000817	Fas ligand (TNF superfamily, member 6) Source MGI Symbol Acc MGI 99255
B11	SBM0751160	ENSMUST000000142985.7	Fkbp1a	ENSMUSG0000032966	FK506 binding protein 1a Source MGI Symbol Acc MGI 95541
B12	SBM0977461	ENSMUST000000134311.1	Fos	ENSMUSG0000021250	FBJ osteosarcoma oncogene Source MGI Symbol Acc MGI 95574
C01	SBM0795258	ENSMUST000000053764.6	Foxo1	ENSMUSG0000044167	forkhead box O1 Source MGI Symbol Acc MGI 1890077
C02	SBM1067125	ENSMUST000000105502.7	Foxo3	ENSMUSG0000048756	forkhead box O3 Source MGI Symbol Acc MGI 1890081
C03	SBM1033106	ENSMUST000000218834.1	Gja1	ENSMUSG0000050953	gap junction protein, alpha 1 Source MGI Symbol Acc MGI 95713
C04	SBM0853557	ENSMUST000000109653.7	Grb10	ENSMUSG0000020176	growth factor receptor bound protein 10 Source MGI Symbol Acc MGI 103232
C05	SBM1054562	ENSMUST000000106497.7	Grb2	ENSMUSG0000059923	growth factor receptor bound protein 2 Source MGI Symbol Acc MGI 95805
C06	SBM0862470	ENSMUST000000132057.1	Gsk3b	ENSMUSG0000022812	glycogen synthase kinase 3 beta Source MGI Symbol Acc MGI 1861437
C07	SBM0815785	ENSMUST000000097957.10	Hras	ENSMUSG0000025499	Harvey rat sarcoma virus oncogene Source MGI Symbol Acc MGI 96224
C08	SBM1021618	ENSMUST000000005077.6	Hspb1	ENSMUSG0000004951	heat shock protein 1 Source MGI Symbol Acc MGI 96240
C09	SBM1026650	ENSMUST000000122386.7	Igf1	ENSMUSG0000020053	insulin-like growth factor 1 Source MGI Symbol Acc MGI 96432
C10	SBM0769269	ENSMUST000000207621.1	Igf1r	ENSMUSG0000005533	insulin-like growth factor I receptor Source MGI Symbol Acc MGI 96433
		ENSMUST000000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBM0904671	033182.9	Ilk	000030890	integrin linked kinase Source MGI Symbol Acc MGI 1195267
C12	SBM0933124	ENSMUST00000148706.7	Irak1	ENSMUSG0000031392	interleukin-1 receptor-associated kinase 1 Source MGI Symbol Acc MGI 107420
D01	SBM0923271	ENSMUST00000069799.2	Irs1	ENSMUSG0000055980	insulin receptor substrate 1 Source MGI Symbol Acc MGI 99454
D02	SBM0691612	ENSMUST00000090006.11	Itgb1	ENSMUSG0000025809	integrin beta 1 (fibronectin receptor beta) Source MGI Symbol Acc MGI 96610
D03	SBM1045409	ENSMUST00000107094.1	Jun	ENSMUSG0000052684	jun proto-oncogene Source MGI Symbol Acc MGI 96646
D04	SBM1025120	ENSMUST00000005066.8	Map2k1	ENSMUSG0000004936	mitogen-activated protein kinase kinase 1 Source MGI Symbol Acc MGI 1346866
D05	SBM0800614	ENSMUST00000231821.1	Mapk1	ENSMUSG0000063358	mitogen-activated protein kinase 1 Source MGI Symbol Acc MGI 1346858
D06	SBM0683456	ENSMUST00000114754.7	Mapk14	ENSMUSG0000053436	mitogen-activated protein kinase 14 Source MGI Symbol Acc MGI 1346865
D07	SBM0856900	ENSMUST00000206272.1	Mapk3	ENSMUSG0000063065	mitogen-activated protein kinase 3 Source MGI Symbol Acc MGI 1346859
D08	SBM0984642	ENSMUST00000132379.1	Mapk8	ENSMUSG0000021936	mitogen-activated protein kinase 8 Source MGI Symbol Acc MGI 1346861
D09	SBM1042652	ENSMUST00000143538.1	Mtcl1	ENSMUSG0000031200	mature T cell proliferation 1 Source MGI Symbol Acc MGI 102699
D10	SBM1220565	ENSMUST00000103221.9	Mtor	ENSMUSG0000028991	mechanistic target of rapamycin kinase Source MGI Symbol Acc MGI 1928394
D11	SBM0986804	ENSMUST00000035092.6	Myd88	ENSMUSG0000032508	myeloid differentiation primary response gene 88 Source MGI Symbol Acc MGI 108005
D12	SBM0841870	ENSMUST00000164430.6	Nfkb1	ENSMUSG0000028163	nuclear factor of kappa light polypeptide gene enhancer in B cells 1, p105 Source MGI Symbol Acc MGI 97312
E01	SBM0696431	ENSMUST00000021413.8	Nfkbia	ENSMUSG0000021025	nuclear factor of kappa light polypeptide gene enhancer in B cells inhibitor, alpha Source MGI Symbol Acc MGI 104741
E02	SBM0996383	ENSMUST00000226496.1	Pabpc1	ENSMUSG0000022283	poly(A) binding protein, cytoplasmic 1 Source MGI Symbol Acc MGI 1349722
E03	SBM0746109	ENSMUST00000033040.11	Pak1	ENSMUSG0000030774	p21 (RAC1) activated kinase 1 Source MGI Symbol Acc MGI 1339975
E04	SBM0852876	ENSMUST00000168162.4	Pdgfra	ENSMUSG0000029231	platelet derived growth factor receptor, alpha polypeptide Source MGI Symbol Acc MGI 97530
E05	SBM0889266	ENSMUST00000134362.7	Pdk1	ENSMUSG0000006494	pyruvate dehydrogenase kinase, isoenzyme 1 Source MGI Symbol Acc MGI 1926119
E06	SBM0921992	ENSMUST00000141712.7	Pdk2	ENSMUSG0000038967	pyruvate dehydrogenase kinase, isoenzyme 2 Source MGI Symbol Acc MGI 1343087
E07	SBM0716432	ENSMUST00000115409.8	Pdpk1	ENSMUSG0000024122	3-phosphoinositide dependent protein kinase 1 Source MGI Symbol Acc MGI 1338068
E08	SBM0905151	ENSMUST00000108243.7	Pik3ca	ENSMUSG0000027665	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha Source MGI Symbol Acc MGI 1206581
E09	SBM0808732	ENSMUST00000220366.1	Pik3cg	ENSMUSG0000020573	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit gamma Source MGI Symbol Acc MGI 1353576
E10	SBM0805909	ENSMUST00000035532.12	Pik3r1	ENSMUSG0000041417	phosphoinositide-3-kinase regulatory subunit 1 Source MGI Symbol Acc MGI 97583
E11	SBM0859782	ENSMUST00000154685.1	Pik3r2	ENSMUSG0000031834	phosphoinositide-3-kinase regulatory subunit 2 Source MGI Symbol Acc MGI 1098772
E12	SBM0890328	ENSMUST00000100302.3	Prkca	ENSMUSG0000050965	protein kinase C, alpha Source MGI Symbol Acc MGI 97595
F01	SBM0696479	ENSMUST00000064921.4	Prkcb	ENSMUSG0000052889	protein kinase C, beta Source MGI Symbol Acc MGI 97596
F02	SBM0723762	ENSMUST00000139647.7	Prkcz	ENSMUSG0000029053	protein kinase C, zeta Source MGI Symbol Acc MGI 97602
F03	SBM1220566	ENSMUST00000013807.7	Pten	ENSMUSG0000013663	phosphatase and tensin homolog Source MGI Symbol Acc MGI 109583
F04	SBM0988125	ENSMUST00000227569.1	Plk2	ENSMUSG0000022607	PTK2 protein tyrosine kinase 2 Source MGI Symbol Acc MGI 95481
F05	SBM0903021	ENSMUST00000148871.1	Ptprn11	ENSMUSG0000043733	protein tyrosine phosphatase, non-receptor type 11 Source MGI Symbol Acc MGI 99511
F06	SBM0680406	ENSMUST00000145709.7	Rac1	ENSMUSG0000001847	Rac family small GTPase 1 Source MGI Symbol Acc MGI 97845
F07	SBM0974573	ENSMUST00000124553.3	Raf1	ENSMUSG0000000441	v-raf-leukemia viral oncogene 1 Source MGI Symbol Acc MGI 97847
F08	SBM0974354	ENSMUST00000109552.2	Rasa1	ENSMUSG0000021549	RAS p21 protein activator 1 Source MGI Symbol Acc MGI 97860
F09	SBM1089037	ENSMUST00000144190.7	Rbl2	ENSMUSG0000031666	RB transcriptional corepressor like 2 Source MGI Symbol Acc MGI 105085
F10	SBM1072282	ENSMUST00000030787.8	Rheb	ENSMUSG0000028945	Ras homolog enriched in brain Source MGI Symbol Acc MGI 97912

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBM0943773	ENSMUST00000194701.5	Rhoa	ENSMUSG0000007815	ras homolog family member A Source MGI Symbol Acc MGI 1096342
F12	SBM0679686	ENSMUST00000105894.10	Rps6ka1	ENSMUSG0000003644	ribosomal protein S6 kinase polypeptide 1 Source MGI Symbol Acc MGI 104558
G01	SBM0853475	ENSMUST00000058286.8	Rps6kb1	ENSMUSG0000020516	ribosomal protein S6 kinase, polypeptide 1 Source MGI Symbol Acc MGI 1270849
G02	SBM0684894	ENSMUST00000128238.7	Shc1	ENSMUSG0000042626	src homology 2 domain-containing transforming protein C1 Source MGI Symbol Acc MGI 98296
G03	SBM0687483	ENSMUST00000234841.1	Sos1	ENSMUSG0000024241	SOS Ras/Rac guanine nucleotide exchange factor 1 Source MGI Symbol Acc MGI 98354
G04	SBM0804646	ENSMUST00000015749.6	Srf	ENSMUSG0000015605	serum response factor Source MGI Symbol Acc MGI 106658
G05	SBM0757991	ENSMUST00000175652.1	Tcl1	ENSMUSG0000041359	T cell lymphoma breakpoint 1 Source MGI Symbol Acc MGI 1097166
G06	SBM1225397	ENSMUST00000177129.7	Tirap	ENSMUSG0000032041	toll-interleukin 1 receptor (TIR) domain-containing adaptor protein Source MGI Symbol Acc MGI 2152213
G07	SBM0745293	ENSMUST00000107365.2	Tlr4	ENSMUSG0000039005	toll-like receptor 4 Source MGI Symbol Acc MGI 96824
G08	SBM0724694	ENSMUST00000151890.2	Tollip	ENSMUSG0000025139	toll interacting protein Source MGI Symbol Acc MGI 1891808
G09	SBM1061191	ENSMUST00000124507.1	Tsc1	ENSMUSG0000026812	tuberous sclerosis 1 Source MGI Symbol Acc MGI 1929183
G10	SBM0757000	ENSMUST00000228412.1	Tsc2	ENSMUSG0000002496	tuberous sclerosis 2 Source MGI Symbol Acc MGI 102548
G11	SBM0962503	ENSMUST00000041737.7	Wasl	ENSMUSG0000029684	Wiskott-Aldrich syndrome-like (human) Source MGI Symbol Acc MGI 1920428
G12	SBM0740069	ENSMUST00000019109.7	Ywhah	ENSMUSG0000018965	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, eta polypeptide Source MGI Symbol Acc MGI 109194
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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