

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

## Mouse PI3K-AKT Signaling Pathway

Cat. no. 249955 UPMM-058ZR

For study focus gene expression analysis

### Shipping and storage

QuantiNova LNA Probe PCR Focus Panels are shipped at room temperature. Immediately upon receipt, they should be stored protected from light 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 Probe PCR Focus Panels should be used together with the QuantiNova Reverse Transcription Kit for cDNA synthesis and the QuantiNova Probe PCR Kit (Mastermix) for PCR.

### Panel layout (Rotor-Gene): QuantiNova LNA Probe 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 Probe PCR 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	Bad	Btk	Casp9	Ccnd1	Cd14	Cdc42	Cdkn1b
B	Chuk	Cank2a1	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	Mitcp1	Mtor	Myd88	Nfkb1
E	Nfkbia	Patp1	Pak1	Pdgfra	Pdk1	Pdk2	Pdpr1	Pik3ca	Pik3cg	Pik3r1	Pik3r2	Prkca
F	Prkcb	Prkcz	Pten	Plk2	Ptpn11	Rac1	Raf1	Rasa1	Rb12	Rheb	Rhoa	Rps6ka1
G	Rps6kb1	Shc1	Sos1	Srf	Tcl1	Tirap	Tir4	Tollip	Tsc1	Tsc2	Wasf	Ywhah
H	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	QIC	QIC	QIC	PPC	PPC	PPC

## Gene table: QuantiNova LNA Probe PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	UPFM062735 6	ENSMUST00000 118341.5	Adar	ENSMUSG00 000027951	adenosine deaminase, RNA-specific Source MGI Symbol Acc MGI 1889575
A02	UPFM082786 0	ENSMUST00000 139388.2	Akt1	ENSMUSG00 000001729	thymoma viral proto-oncogene 1 Source MGI Symbol Acc MGI 87986
A03	UPFM074464 2	ENSMUST00000 138459.7	Akt2	ENSMUSG00 000004056	thymoma viral proto-oncogene 2 Source MGI Symbol Acc MGI 104874
A04	UPFM085236 9	ENSMUST00000 111160.8	Akt3	ENSMUSG00 000019699	thymoma viral proto-oncogene 3 Source MGI Symbol Acc MGI 1345147
A05	UPFM082281 4	ENSMUST00000 163295.1	Apc	ENSMUSG00 000005871	APC, WNT signaling pathway regulator Source MGI Symbol Acc MGI 88039
A06	UPFM070030 3	ENSMUST00000 025910.12	Bad	ENSMUSG00 000024959	BCL2-associated agonist of cell death Source MGI Symbol Acc MGI 1096330
A07	UPFM096243 1	ENSMUST00000 033617.12	Btk	ENSMUSG00 000031264	Bruton agammaglobulinemia tyrosine kinase Source MGI Symbol Acc MGI 88216
A08	UPFM069330 9	ENSMUST00000 097805.10	Casp9	ENSMUSG00 000028914	caspase 9 Source MGI Symbol Acc MGI 1277950
A09	UPFM093346 3	ENSMUST00000 208193.1	Ccnd1	ENSMUSG00 000070348	cyclin D1 Source MGI Symbol Acc MGI 88313
A10	UPFM093611 0	ENSMUST00000 237042.1	Cd14	ENSMUSG00 000051439	CD14 antigen Source MGI Symbol Acc MGI 88318
A11	UPFM073725 4	ENSMUST00000 030417.9	Cdc42	ENSMUSG00 000006699	cell division cycle 42 Source MGI Symbol Acc MGI 106211
A12	UPFM072528 3	ENSMUST00000 204807.1	Cdkn1b	ENSMUSG00 000003031	cyclin-dependent kinase inhibitor 1B Source MGI Symbol Acc MGI 104565
B01	UPFM100719 5	ENSMUST00000 146861.1	Chuk	ENSMUSG00 000025199	conserved helix-loop-helix ubiquitous kinase Source MGI Symbol Acc MGI 99484
B02	UPFM093398 7	ENSMUST00000 136063.1	Csnk2a1	ENSMUSG00 000074698	casein kinase 2, alpha 1 polypeptide Source MGI Symbol Acc MGI 88543
B03	UPFM098586 3	ENSMUST00000 154356.7	Ctnnb1	ENSMUSG00 000006932	catenin (cadherin associated protein), beta 1 Source MGI Symbol Acc MGI 88276
B04	UPFM078422 5	ENSMUST00000 171852.1	Eif2ak2	ENSMUSG00 000024079	eukaryotic translation initiation factor 2-alpha kinase 2 Source MGI Symbol Acc MGI 1353449
B05	UPFM070097 0	ENSMUST00000 229400.1	Eif4b	ENSMUSG00 000058655	eukaryotic translation initiation factor 4B Source MGI Symbol Acc MGI 95304
B06	UPFM067965 2	ENSMUST00000 196990.4	Eif4e	ENSMUSG00 000028156	eukaryotic translation initiation factor 4E Source MGI Symbol Acc MGI 95305
B07	UPFM094083 8	ENSMUST00000 210959.1	Eif4ebp1	ENSMUSG00 000031490	eukaryotic translation initiation factor 4E binding protein 1 Source MGI Symbol Acc MGI 103267
B08	UPFM075634 3	ENSMUST00000 154950.7	Eif4g1	ENSMUSG00 000045983	eukaryotic translation initiation factor 4, gamma 1 Source MGI Symbol Acc MGI 2384784
B09	UPFM084473 1	ENSMUST00000 148133.1	Elk1	ENSMUSG00 000009406	ELK1, member of ETS oncogene family Source MGI Symbol Acc MGI 101833
B10	UPFM074944 2	ENSMUST00000 193648.1	Fasl	ENSMUSG00 000000817	Fas ligand (TNF superfamily, member 6) Source MGI Symbol Acc MGI 99255
B11	UPFM079456 7	ENSMUST00000 143230.7	Fkbp1a	ENSMUSG00 000032966	FK506 binding protein 1a Source MGI Symbol Acc MGI 95541
B12	UPFM076456 3	ENSMUST00000 136122.7	Fos	ENSMUSG00 000021250	FBJ osteosarcoma oncogene Source MGI Symbol Acc MGI 95574
C01	UPFM073382 1	ENSMUST00000 053764.6	Foxo1	ENSMUSG00 000044167	forkhead box O1 Source MGI Symbol Acc MGI 1890077
C02	UPFM088301 1	ENSMUST00000 056974.3	Foxo3	ENSMUSG00 000048756	forkhead box O3 Source MGI Symbol Acc MGI 1890081
C03	UPFM082714 5	ENSMUST00000 068581.8	Gja1	ENSMUSG00 000050953	gap junction protein, alpha 1 Source MGI Symbol Acc MGI 95713
C04	UPFM083067 8	ENSMUST00000 109653.7	Grb10	ENSMUSG00 000020176	growth factor receptor bound protein 10 Source MGI Symbol Acc MGI 103232
C05	UPFM076228 3	ENSMUST00000 135065.1	Grb2	ENSMUSG00 000059923	growth factor receptor bound protein 2 Source MGI Symbol Acc MGI 95805
C06	UPFM098687 7	ENSMUST00000 114750.1	Gsk3b	ENSMUSG00 000022812	glycogen synthase kinase 3 beta Source MGI Symbol Acc MGI 1861437
C07	UPFM099623 4	ENSMUST00000 124314.2	Hras	ENSMUSG00 000025499	Harvey rat sarcoma virus oncogene Source MGI Symbol Acc MGI 96224
C08	UPFM101003 5	ENSMUST00000 005077.6	Hspb1	ENSMUSG00 000004951	heat shock protein 1 Source MGI Symbol Acc MGI 96240
C09	UPFM092941 8	ENSMUST00000 121161.7	Igf1	ENSMUSG00 000020053	insulin-like growth factor 1 Source MGI Symbol Acc MGI 96432
C10	UPFM065329 9	ENSMUST00000 208871.1	Igf1r	ENSMUSG00 000005533	insulin-like growth factor I receptor Source MGI Symbol Acc MGI 96433
	UPFM073967	ENSMUST00000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	8	149695.7	Ilk	000030890	integrin linked kinase Source MGI Symbol Acc MGI 1195267
C12	UPFM067566 8	ENSMUST00000 138397.7	Irak1	ENSMUSG00 000031392	interleukin-1 receptor-associated kinase 1 Source MGI Symbol Acc MGI 107420
D01	UPFM068140 3	ENSMUST00000 069799.2	Irs1	ENSMUSG00 000055980	insulin receptor substrate 1 Source MGI Symbol Acc MGI 99454
D02	UPFM093465 6	ENSMUST00000 124826.1	Itgb1	ENSMUSG00 000025809	integrin beta 1 (fibronectin receptor beta) Source MGI Symbol Acc MGI 96610
D03	UPFM097521 6	ENSMUST00000 107094.1	Jun	ENSMUSG00 000052684	jun proto-oncogene Source MGI Symbol Acc MGI 96646
D04	UPFM066592 5	ENSMUST00000 005066.8	Map2k1	ENSMUSG00 000004936	mitogen-activated protein kinase kinase 1 Source MGI Symbol Acc MGI 1346866
D05	UPFM066625 9	ENSMUST00000 232611.1	Mapk1	ENSMUSG00 000063358	mitogen-activated protein kinase 1 Source MGI Symbol Acc MGI 1346858
D06	UPFM074684 8	ENSMUST00000 004990.13	Mapk14	ENSMUSG00 000053436	mitogen-activated protein kinase 14 Source MGI Symbol Acc MGI 1346865
D07	UPFM094029 9	ENSMUST00000 205657.1	Mapk3	ENSMUSG00 000063065	mitogen-activated protein kinase 3 Source MGI Symbol Acc MGI 1346859
D08	UPFM091565 7	ENSMUST00000 111944.9	Mapk8	ENSMUSG00 000021936	mitogen-activated protein kinase 8 Source MGI Symbol Acc MGI 1346861
D09	UPFM097528 7	ENSMUST00000 033542.10	Mtcl1	ENSMUSG00 000031200	mature T cell proliferation 1 Source MGI Symbol Acc MGI 102699
D10	UPFM062102 3	ENSMUST00000 057580.7	Mtor	ENSMUSG00 000028991	mechanistic target of rapamycin kinase Source MGI Symbol Acc MGI 1928394
D11	UPFM117295 8	ENSMUST00000 035092.6	Myd88	ENSMUSG00 000032508	myeloid differentiation primary response gene 88 Source MGI Symbol Acc MGI 108005
D12	UPFM098758 7	ENSMUST00000 029812.13	Nfkb1	ENSMUSG00 000028163	nuclear factor of kappa light polypeptide gene enhancer in B cells 1, p105 Source MGI Symbol Acc MGI 97312
E01	UPFM072174 5	ENSMUST00000 021413.8	Nfkbia	ENSMUSG00 000021025	nuclear factor of kappa light polypeptide gene enhancer in B cells inhibitor, alpha Source MGI Symbol Acc MGI 104741
E02	UPFM088628 9	ENSMUST00000 146577.7	Pabpc1	ENSMUSG00 000022283	poly(A) binding protein, cytoplasmic 1 Source MGI Symbol Acc MGI 1349722
E03	UPFM076380 8	ENSMUST00000 156637.2	Pak1	ENSMUSG00 000030774	p21 (RAC1) activated kinase 1 Source MGI Symbol Acc MGI 1339975
E04	UPFM073646 8	ENSMUST00000 202186.3	Pdgfra	ENSMUSG00 000029231	platelet derived growth factor receptor, alpha polypeptide Source MGI Symbol Acc MGI 97530
E05	UPFM080898 6	ENSMUST00000 134362.7	Pdk1	ENSMUSG00 000006494	pyruvate dehydrogenase kinase, isoenzyme 1 Source MGI Symbol Acc MGI 1926119
E06	UPFM081696 8	ENSMUST00000 126730.1	Pdk2	ENSMUSG00 000038967	pyruvate dehydrogenase kinase, isoenzyme 2 Source MGI Symbol Acc MGI 1343087
E07	UPFM086863 3	ENSMUST00000 052462.12	Pdpk1	ENSMUSG00 000024122	3-phosphoinositide dependent protein kinase 1 Source MGI Symbol Acc MGI 1338068
E08	UPFM070843 8	ENSMUST00000 108243.7	Pik3ca	ENSMUSG00 000027665	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha Source MGI Symbol Acc MGI 1206581
E09	UPFM080212 7	ENSMUST00000 053215.13	Pik3cg	ENSMUSG00 000020573	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit gamma Source MGI Symbol Acc MGI 1353576
E10	UPFM073586 5	ENSMUST00000 185795.1	Pik3r1	ENSMUSG00 000041417	phosphoinositide-3-kinase regulatory subunit 1 Source MGI Symbol Acc MGI 97583
E11	UPFM100002 8	ENSMUST00000 034296.14	Pik3r2	ENSMUSG00 000031834	phosphoinositide-3-kinase regulatory subunit 2 Source MGI Symbol Acc MGI 1098772
E12	UPFM091650 2	ENSMUST00000 100302.3	Prkca	ENSMUSG00 000050965	protein kinase C, alpha Source MGI Symbol Acc MGI 97595
F01	UPFM080540 4	ENSMUST00000 143692.7	Prkcb	ENSMUSG00 000052889	protein kinase C, beta Source MGI Symbol Acc MGI 97596
F02	UPFM080960 6	ENSMUST00000 105624.1	Prkcz	ENSMUSG00 000029053	protein kinase C, zeta Source MGI Symbol Acc MGI 97602
F03	UPFM089742 6	ENSMUST00000 013807.7	Pten	ENSMUSG00 000013663	phosphatase and tensin homolog Source MGI Symbol Acc MGI 109583
F04	UPFM085603 9	ENSMUST00000 226466.1	Plk2	ENSMUSG00 000022607	PTK2 protein tyrosine kinase 2 Source MGI Symbol Acc MGI 95481
F05	UPFM092286 3	ENSMUST00000 100770.8	Ptprn11	ENSMUSG00 000043733	protein tyrosine phosphatase, non-receptor type 11 Source MGI Symbol Acc MGI 99511
F06	UPFM096241 9	ENSMUST00000 131513.1	Rac1	ENSMUSG00 000001847	Rac family small GTPase 1 Source MGI Symbol Acc MGI 97845
F07	UPFM071074 7	ENSMUST00000 204512.1	Raf1	ENSMUSG00 000000441	v-raf-leukemia viral oncogene 1 Source MGI Symbol Acc MGI 97847
F08	UPFM097434 4	ENSMUST00000 142285.1	Rasa1	ENSMUSG00 000021549	RAS p21 protein activator 1 Source MGI Symbol Acc MGI 97860
F09	UPFM074059 9	ENSMUST00000 147361.7	Rbl2	ENSMUSG00 000031666	RB transcriptional corepressor like 2 Source MGI Symbol Acc MGI 105085
F10	UPFM080993 1	ENSMUST00000 146310.1	Rheb	ENSMUSG00 000028945	Ras homolog enriched in brain Source MGI Symbol Acc MGI 97912

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFM080926 1	ENSMUST00000 007959.13	Rhoa	ENSMUSG00 000007815	ras homolog family member A Source MGI Symbol Acc MGI 1096342
F12	UPFM087963 3	ENSMUST00000 105894.10	Rps6ka1	ENSMUSG00 000003644	ribosomal protein S6 kinase polypeptide 1 Source MGI Symbol Acc MGI 104558
G01	UPFM063338 0	ENSMUST00000 020824.14	Rps6kb1	ENSMUSG00 000020516	ribosomal protein S6 kinase, polypeptide 1 Source MGI Symbol Acc MGI 1270849
G02	UPFM096186 8	ENSMUST00000 154791.7	Shc1	ENSMUSG00 000042626	src homology 2 domain-containing transforming protein C1 Source MGI Symbol Acc MGI 98296
G03	UPFM097736 8	ENSMUST00000 068714.6	Sos1	ENSMUSG00 000024241	SOS Ras/Rac guanine nucleotide exchange factor 1 Source MGI Symbol Acc MGI 98354
G04	UPFM087348 3	ENSMUST00000 015749.6	Srf	ENSMUSG00 000015605	serum response factor Source MGI Symbol Acc MGI 106658
G05	UPFM096560 9	ENSMUST00000 176579.1	Tcl1	ENSMUSG00 000041359	T cell lymphoma breakpoint 1 Source MGI Symbol Acc MGI 1097166
G06	UPFM075476 0	ENSMUST00000 176531.7	Tirap	ENSMUSG00 000032041	toll-interleukin 1 receptor (TIR) domain-containing adaptor protein Source MGI Symbol Acc MGI 2152213
G07	UPFM075034 5	ENSMUST00000 107365.2	Tlr4	ENSMUSG00 000039005	toll-like receptor 4 Source MGI Symbol Acc MGI 96824
G08	UPFM064688 8	ENSMUST00000 130439.2	Tollip	ENSMUSG00 000025139	toll interacting protein Source MGI Symbol Acc MGI 1891808
G09	UPFM074659 5	ENSMUST00000 156857.7	Tsc1	ENSMUSG00 000026812	tuberous sclerosis 1 Source MGI Symbol Acc MGI 1929183
G10	UPFM073190 6	ENSMUST00000 226398.1	Tsc2	ENSMUSG00 000002496	tuberous sclerosis 2 Source MGI Symbol Acc MGI 102548
G11	UPFM068782 8	ENSMUST00000 031695.14	Wasl	ENSMUSG00 000029684	Wiskott-Aldrich syndrome-like (human) Source MGI Symbol Acc MGI 1920428
G12	UPFM090562 8	ENSMUST00000 138261.1	Ywhah	ENSMUSG00 000018965	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, eta polypeptide Source MGI Symbol Acc MGI 109194
H01	UPFM113294 6	ENSMUST00000 163829.1	Actb	ENSMUSG00 000029580	actin, beta Source MGI Symbol Acc MGI 87904
H02	UPFM113294 7	ENSMUST00000 102476.4	B2m	ENSMUSG00 000060802	beta-2 microglobulin Source MGI Symbol Acc MGI 88127
H03	UPFM113294 8	ENSMUST00000 117757.8	Gapdh	ENSMUSG00 000057666	glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640
H04	UPFM113294 9	ENSMUST00000 026613.13	Gusb	ENSMUSG00 000025534	glucuronidase, beta Source MGI Symbol Acc MGI 95872
H05	UPFM113295 0	ENSMUST00000 166469.7	Hsp90ab1	ENSMUSG00 000023944	heat shock protein 90 alpha (cytosolic), class B member 1 Source MGI Symbol Acc MGI 96247
H06	UPFM112660 9	UPL_MGDC	MGDC	UPL_MGDC	Mouse Genomic DNA Contamination
H07	UPFH1126606	UPL_QIC	QIC	UPL_QIC	QuantiNova Internal Control
H08	UPFH1126606	UPL_QIC	QIC	UPL_QIC	QuantiNova Internal Control
H09	UPFH1126606	UPL_QIC	QIC	UPL_QIC	QuantiNova Internal Control
H10	UPFH1126605	UPL_PPC	PPC	UPL_PPC	Positive PCR Control
H11	UPFH1126605	UPL_PPC	PPC	UPL_PPC	Positive PCR Control
H12	UPFH1126605	UPL_PPC	PPC	UPL_PPC	Positive PCR Control



## Related products

Product	Contents	Cat. no.
QuantiNova LNA Probe PCR QC Panel	These panels are designed to assess the quality of RNA samples before characterization using QuantiNova LNA Probe PCR Focus Panels; available in 96-well, 384-well, and Rotor-Disc 100 formats	249945
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 Probe RT-PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml QuantiNova Probe RT-PCR Master Mix, 20 $\mu$ l QuantiNova Probe 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	208352
QuantiNova Probe PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml 2x QuantiNova Probe PCR Master Mix, 500 $\mu$ l QuantiNova Yellow Template Dilution Buffer, 250 $\mu$ l QN ROX Reference Dye, 1.9 ml Water	208252

\*Larger kit sizes available.

The QuantiNova LNA Probe 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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