

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

## Mouse MAP Kinase Signaling Pathway

Cat. no. 249955 UPMM-061ZR

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	Araf	Aif2	Ccna1	Ccna2	Ccnb1	Ccnb2	Ccnd1	Ccnd2	Ccnd3	Ccne1	Cdc42	Cdk2
B	Cdk4	Cdk6	Cdkn1a	Cdkn1b	Cdkn1c	Cdkn2a	Cdkn2b	Cdkn2c	Cdkn2d	Chuk	Col1a1	Creb1
C	Crebbp	Dlk1	E2f1	Egfr	Egr1	Elk1	Ets1	Ets2	Fos	Grb2	Hras	Hspa5
D	Hspb1	Jun	Kcnn1	Kras	Ksr1	Lamtor3	Map2k1	Map2k2	Map2k3	Map2k4	Map2k5	Map2k6
E	Map2k7	Map3k1	Map3k2	Map3k3	Map3k4	Map4k1	Mapk1	Mapk10	Mapk11	Mapk12	Mapk13	Mapk14
F	Mapk3	Mapk6	Mapk7	Mapk8	Mapk8ip1	Mapk8ip2	Mapk8ip3	Mapk9	Mapkapk2	Mapkapk5	Max	Mef2c
G	Mknk1	Mos	Myc	Nfatc4	Nras	Pak1	Rac1	Raf1	Rb1	Sfn	Smad4	Trp53
H	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	QIC	QIC	QIC	QIC	PPC	PPC

## Gene table: QuantiNova LNA Probe PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	UPFM068506 5	ENSMUST00000 120356.7	Araf	ENSMUSG00 000001127	Araf proto-oncogene, serine/threonine kinase Source MGI Symbol Acc MGI 88065
A02	UPFM100059 0	ENSMUST00000 154456.7	Ahf2	ENSMUSG00 000027104	activating transcription factor 2 Source MGI Symbol Acc MGI 109349
A03	UPFM079498 3	ENSMUST00000 029368.6	Ccna1	ENSMUSG00 000027793	cyclin A1 Source MGI Symbol Acc MGI 108042
A04	UPFM088857 5	ENSMUST00000 029270.9	Ccna2	ENSMUSG00 000027715	cyclin A2 Source MGI Symbol Acc MGI 108069
A05	UPFM091925 2	ENSMUST00000 147790.1	Ccnb1	ENSMUSG00 000041431	cyclin B1 Source MGI Symbol Acc MGI 88302
A06	UPFM100749 5	ENSMUST00000 034742.7	Ccnb2	ENSMUSG00 000032218	cyclin B2 Source MGI Symbol Acc MGI 88311
A07	UPFM093346 3	ENSMUST00000 208193.1	Ccnd1	ENSMUSG00 000070348	cyclin D1 Source MGI Symbol Acc MGI 88313
A08	UPFM086144 2	ENSMUST00000 201066.1	Ccnd2	ENSMUSG00 000000184	cyclin D2 Source MGI Symbol Acc MGI 88314
A09	UPFM069203 1	ENSMUST00000 182848.7	Ccnd3	ENSMUSG00 000034165	cyclin D3 Source MGI Symbol Acc MGI 88315
A10	UPFM097782 7	ENSMUST00000 130329.1	Ccne1	ENSMUSG00 000002068	cyclin E1 Source MGI Symbol Acc MGI 88316
A11	UPFM073725 4	ENSMUST00000 030417.9	Cdc42	ENSMUSG00 000006699	cell division cycle 42 Source MGI Symbol Acc MGI 106211
A12	UPFM089823 9	ENSMUST00000 219601.1	Cdk2	ENSMUSG00 000025358	cyclin-dependent kinase 2 Source MGI Symbol Acc MGI 104772
B01	UPFM094816 9	ENSMUST00000 140254.7	Cdk4	ENSMUSG00 000006728	cyclin-dependent kinase 4 Source MGI Symbol Acc MGI 88357
B02	UPFM062634 4	ENSMUST00000 042410.4	Cdk6	ENSMUSG00 000040274	cyclin-dependent kinase 6 Source MGI Symbol Acc MGI 1277162
B03	UPFM086779 1	ENSMUST00000 122348.2	Cdkn1a	ENSMUSG00 000023067	cyclin-dependent kinase inhibitor 1A (P21) Source MGI Symbol Acc MGI 104556
B04	UPFM072528 3	ENSMUST00000 204807.1	Cdkn1b	ENSMUSG00 000003031	cyclin-dependent kinase inhibitor 1B Source MGI Symbol Acc MGI 104565
B05	UPFM061949 3	ENSMUST00000 037287.7	Cdkn1c	ENSMUSG00 000037664	cyclin-dependent kinase inhibitor 1C (P57) Source MGI Symbol Acc MGI 104564
B06	UPFM070277 6	ENSMUST00000 107131.1	Cdkn2a	ENSMUSG00 000044303	cyclin dependent kinase inhibitor 2A Source MGI Symbol Acc MGI 104738
B07	UPFM092812 3	ENSMUST00000 097981.5	Cdkn2b	ENSMUSG00 000073802	cyclin dependent kinase inhibitor 2B Source MGI Symbol Acc MGI 104737
B08	UPFM089384 1	ENSMUST00000 063531.4	Cdkn2c	ENSMUSG00 000028551	cyclin dependent kinase inhibitor 2C Source MGI Symbol Acc MGI 105388
B09	UPFM100290 3	ENSMUST00000 213407.1	Cdkn2d	ENSMUSG00 000096472	cyclin dependent kinase inhibitor 2D Source MGI Symbol Acc MGI 105387
B10	UPFM100719 5	ENSMUST00000 146861.1	Chuk	ENSMUSG00 000025199	conserved helix-loop-helix ubiquitous kinase Source MGI Symbol Acc MGI 99484
B11	UPFM117294 6	ENSMUST00000 001547.7	Col1a1	ENSMUSG00 000001506	collagen, type I, alpha 1 Source MGI Symbol Acc MGI 88467
B12	UPFM085293 8	ENSMUST00000 087366.10	Creb1	ENSMUSG00 000025958	cAMP responsive element binding protein 1 Source MGI Symbol Acc MGI 88494
C01	UPFM086770 7	ENSMUST00000 206098.1	Crebbp	ENSMUSG00 000022521	CREB binding protein Source MGI Symbol Acc MGI 1098280
C02	UPFM093509 3	ENSMUST00000 109846.10	Dlk1	ENSMUSG00 000040856	delta like non-canonical Notch ligand 1 Source MGI Symbol Acc MGI 94900
C03	UPFM066128 0	ENSMUST00000 000894.5	E2f1	ENSMUSG00 000027490	E2F transcription factor 1 Source MGI Symbol Acc MGI 101941
C04	UPFM080878 1	ENSMUST00000 125984.1	Egfr	ENSMUSG00 000020122	epidermal growth factor receptor Source MGI Symbol Acc MGI 95294
C05	UPFM085434 3	ENSMUST00000 165033.1	Egr1	ENSMUSG00 000038418	early growth response 1 Source MGI Symbol Acc MGI 95295
C06	UPFM084473 1	ENSMUST00000 148133.1	Elk1	ENSMUSG00 000009406	ELK1, member of ETS oncogene family Source MGI Symbol Acc MGI 101833
C07	UPFM073575 5	ENSMUST00000 034534.12	Ets1	ENSMUSG00 000032035	E26 avian leukemia oncogene 1, 5 domain Source MGI Symbol Acc MGI 95455
C08	UPFM097328 1	ENSMUST00000 023612.16	Ets2	ENSMUSG00 000022895	E26 avian leukemia oncogene 2, 3 domain Source MGI Symbol Acc MGI 95456
C09	UPFM076456 3	ENSMUST00000 136122.7	Fos	ENSMUSG00 000021250	FBJ osteosarcoma oncogene Source MGI Symbol Acc MGI 95574
C10	UPFM076228 3	ENSMUST00000 135065.1	Grb2	ENSMUSG00 000059923	growth factor receptor bound protein 2 Source MGI Symbol Acc MGI 95805
	UPFM099623	ENSMUST00000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	4	124314.2	Hras	000025499	Harvey rat sarcoma virus oncogene Source MGI Symbol Acc MGI 96224
C12	UPFM1004603	ENSMUST00000100171.2	Hspa5	ENSMUSG0000026864	heat shock protein 5 Source MGI Symbol Acc MGI 95835
D01	UPFM1010035	ENSMUST00000005077.6	Hspb1	ENSMUSG0000004951	heat shock protein 1 Source MGI Symbol Acc MGI 96240
D02	UPFM0975216	ENSMUST00000107094.1	Jun	ENSMUSG0000052684	jun proto-oncogene Source MGI Symbol Acc MGI 96646
D03	UPFM0759981	ENSMUST00000110081.9	Kcnn1	ENSMUSG0000002908	potassium intermediate/small conductance calcium-activated channel, subfamily N, member 1 Source MGI Symbol Acc MGI 1933993
D04	UPFM1000799	ENSMUST00000032399.11	Kras	ENSMUSG0000030265	Kirsten rat sarcoma viral oncogene homolog Source MGI Symbol Acc MGI 96680
D05	UPFM0797850	ENSMUST00000208969.1	Ksr1	ENSMUSG0000018334	kinase suppressor of ras 1 Source MGI Symbol Acc MGI 105051
D06	UPFM0720323	ENSMUST00000168345.5	Lamtor3	ENSMUSG0000091512	late endosomal/lysosomal adaptor, MAPK and MTOR activator 3 Source MGI Symbol Acc MGI 1929467
D07	UPFM0665925	ENSMUST00000005066.8	Map2k1	ENSMUSG0000004936	mitogen-activated protein kinase kinase 1 Source MGI Symbol Acc MGI 1346866
D08	UPFM0680429	ENSMUST00000220329.1	Map2k2	ENSMUSG0000035027	mitogen-activated protein kinase kinase 2 Source MGI Symbol Acc MGI 1346867
D09	UPFM0795874	ENSMUST00000126043.1	Map2k3	ENSMUSG0000018932	mitogen-activated protein kinase kinase 3 Source MGI Symbol Acc MGI 1346868
D10	UPFM0726127	ENSMUST00000046963.9	Map2k4	ENSMUSG000003352	mitogen-activated protein kinase kinase 4 Source MGI Symbol Acc MGI 1346869
D11	UPFM0902963	ENSMUST00000213604.1	Map2k5	ENSMUSG0000058444	mitogen-activated protein kinase kinase 5 Source MGI Symbol Acc MGI 1346345
D12	UPFM0692016	ENSMUST00000020949.11	Map2k6	ENSMUSG0000020623	mitogen-activated protein kinase kinase 6 Source MGI Symbol Acc MGI 1346870
E01	UPFM0835999	ENSMUST00000110994.8	Map2k7	ENSMUSG0000002948	mitogen-activated protein kinase kinase 7 Source MGI Symbol Acc MGI 1346871
E02	UPFM0713376	ENSMUST00000109267.8	Map3k1	ENSMUSG0000021754	mitogen-activated protein kinase kinase kinase 1 Source MGI Symbol Acc MGI 1346872
E03	UPFM0934928	ENSMUST00000096575.4	Map3k2	ENSMUSG0000024383	mitogen-activated protein kinase kinase kinase 2 Source MGI Symbol Acc MGI 1346873
E04	UPFM0617719	ENSMUST00000002044.9	Map3k3	ENSMUSG0000020700	mitogen-activated protein kinase kinase kinase 3 Source MGI Symbol Acc MGI 1346874
E05	UPFM0632002	ENSMUST00000233755.1	Map3k4	ENSMUSG0000014426	mitogen-activated protein kinase kinase kinase 4 Source MGI Symbol Acc MGI 1346875
E06	UPFM0932384	ENSMUST00000207185.1	Map4k1	ENSMUSG0000037337	mitogen-activated protein kinase kinase kinase kinase 1 Source MGI Symbol Acc MGI 1346882
E07	UPFM0666259	ENSMUST00000232611.1	Mapk1	ENSMUSG0000063358	mitogen-activated protein kinase 1 Source MGI Symbol Acc MGI 1346858
E08	UPFM1000079	ENSMUST00000112847.8	Mapk10	ENSMUSG0000046709	mitogen-activated protein kinase 10 Source MGI Symbol Acc MGI 1346863
E09	UPFM0855913	ENSMUST00000088823.4	Mapk11	ENSMUSG0000053137	mitogen-activated protein kinase 11 Source MGI Symbol Acc MGI 1338024
E10	UPFM1003432	ENSMUST00000088827.7	Mapk12	ENSMUSG0000022610	mitogen-activated protein kinase 12 Source MGI Symbol Acc MGI 1353438
E11	UPFM0942130	ENSMUST00000233051.1	Mapk13	ENSMUSG0000004864	mitogen-activated protein kinase 13 Source MGI Symbol Acc MGI 1346864
E12	UPFM0746848	ENSMUST00000004990.13	Mapk14	ENSMUSG0000053436	mitogen-activated protein kinase 14 Source MGI Symbol Acc MGI 1346865
F01	UPFM0940299	ENSMUST00000205657.1	Mapk3	ENSMUSG0000063065	mitogen-activated protein kinase 3 Source MGI Symbol Acc MGI 1346859
F02	UPFM0861200	ENSMUST00000049355.10	Mapk6	ENSMUSG0000042688	mitogen-activated protein kinase 6 Source MGI Symbol Acc MGI 1354946
F03	UPFM0757362	ENSMUST00000139663.7	Mapk7	ENSMUSG0000001034	mitogen-activated protein kinase 7 Source MGI Symbol Acc MGI 1346347
F04	UPFM0915657	ENSMUST00000111944.9	Mapk8	ENSMUSG0000021936	mitogen-activated protein kinase 8 Source MGI Symbol Acc MGI 1346861
F05	UPFM0765204	ENSMUST00000111279.8	Mapk8ip1	ENSMUSG0000027223	mitogen-activated protein kinase 8 interacting protein 1 Source MGI Symbol Acc MGI 1309464
F06	UPFM1006709	ENSMUST00000137755.1	Mapk8ip2	ENSMUSG0000022619	mitogen-activated protein kinase 8 interacting protein 2 Source MGI Symbol Acc MGI 1926555
F07	UPFM0638217	ENSMUST00000146923.7	Mapk8ip3	ENSMUSG0000024163	mitogen-activated protein kinase 8 interacting protein 3 Source MGI Symbol Acc MGI 1353598
F08	UPFM0947828	ENSMUST00000144857.7	Mapk9	ENSMUSG0000020366	mitogen-activated protein kinase 9 Source MGI Symbol Acc MGI 1346862
F09	UPFM0673867	ENSMUST00000188459.3	Mapkapk2	ENSMUSG0000016528	MAP kinase-activated protein kinase 2 Source MGI Symbol Acc MGI 109298
F10	UPFM0780916	ENSMUST00000111781.7	Mapkapk5	ENSMUSG0000029454	MAP kinase-activated protein kinase 5 Source MGI Symbol Acc MGI 1333110

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFM0921340	ENSMUST00000110395.10	Max	ENSMUSG0000059436	Max protein Source MGI Symbol Acc MGI 96921
F12	UPFM0628734	ENSMUST00000199262.1	Mef2c	ENSMUSG0000005583	myocyte enhancer factor 2C Source MGI Symbol Acc MGI 99458
G01	UPFM0885233	ENSMUST00000150201.7	Mknk1	ENSMUSG0000028708	MAP kinase-interacting serine/threonine kinase 1 Source MGI Symbol Acc MGI 894316
G02	UPFM0968907	ENSMUST00000105158.1	Mos	ENSMUSG0000078365	Moloney sarcoma oncogene Source MGI Symbol Acc MGI 97052
G03	UPFM0814214	ENSMUST00000161976.7	Myc	ENSMUSG0000022346	myelocytomatosis oncogene Source MGI Symbol Acc MGI 97250
G04	UPFM0988158	ENSMUST00000024179.5	Nfatc4	ENSMUSG00000023411	nuclear factor of activated T cells, cytoplasmic, calcineurin dependent 4 Source MGI Symbol Acc MGI 1920431
G05	UPFM0742075	ENSMUST00000197678.4	Nras	ENSMUSG0000027852	neuroblastoma ras oncogene Source MGI Symbol Acc MGI 97376
G06	UPFM0763808	ENSMUST00000156637.2	Pak1	ENSMUSG0000030774	p21 (RAC1) activated kinase 1 Source MGI Symbol Acc MGI 1339975
G07	UPFM0962419	ENSMUST00000131513.1	Rac1	ENSMUSG0000001847	Rac family small GTPase 1 Source MGI Symbol Acc MGI 97845
G08	UPFM0710747	ENSMUST00000204512.1	Raf1	ENSMUSG0000000441	v-raf-leukemia viral oncogene 1 Source MGI Symbol Acc MGI 97847
G09	UPFM0772788	ENSMUST00000022701.6	Rb1	ENSMUSG00000022105	RB transcriptional corepressor 1 Source MGI Symbol Acc MGI 97874
G10	UPFM0941114	ENSMUST00000057311.3	Sfn	ENSMUSG0000047281	stratifin Source MGI Symbol Acc MGI 1891831
G11	UPFM0986328	ENSMUST00000114939.1	Smad4	ENSMUSG00000024515	SMAD family member 4 Source MGI Symbol Acc MGI 894293
G12	UPFM0669133	ENSMUST00000171247.7	Trp53	ENSMUSG0000059552	transformation related protein 53 Source MGI Symbol Acc MGI 98834
H01	UPFM1132946	ENSMUST00000163829.1	Actb	ENSMUSG0000029580	actin, beta Source MGI Symbol Acc MGI 87904
H02	UPFM1132947	ENSMUST00000102476.4	B2m	ENSMUSG0000060802	beta-2 microglobulin Source MGI Symbol Acc MGI 88127
H03	UPFM1132948	ENSMUST00000117757.8	Gapdh	ENSMUSG0000057666	glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640
H04	UPFM1132949	ENSMUST00000026613.13	Gusb	ENSMUSG0000025534	glucuronidase, beta Source MGI Symbol Acc MGI 95872
H05	UPFM1132950	ENSMUST00000166469.7	Hsp90ab1	ENSMUSG0000023944	heat shock protein 90 alpha (cytosolic), class B member 1 Source MGI Symbol Acc MGI 96247
H06	UPFM1126609	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.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at [www.qiagen.com](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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