

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

## Rat AMPK Signaling

Cat. no. 249955 UPRN-175ZA

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 (96-well): QuantiNova LNA Probe PCR Focus Panel

For the 384-well (4 × 96) PCR panels, genes are present in a staggered format. 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	Acaca	Acacb	Adipor1	Adipor2	Adra1a	Adra1b	Adra1d	Adra2a	Adra2b	Adra2c	AABR0705145 0.1	Ak2
B	Akt3	Akt1	Akt2	Akt3	Atg13	Cab39	Camkk1	Camkk2	Chrna1	Chrb1	Cpt1a	Cpt1b
C	Cpt1c	Cpf2	Crtc2	Cry1	Eef2k	Eif4ebp1	Elovl1	Fasn	Foxo3	Gpam	Gpat2	Gys1
D	Gys2	Hmgcr	Hnf4a	Insr	Lepr	Lipe	Mlycd	Mtor	Pdpk1	Pfkfb1	Pfkfb2	Pfkfb3
E	LOC1009117 25	LOC1009116 15	Ppargc1a	Ppargc1b	LOC1036949 03	Ppp2cb	Ppp2r1a	Ppp2r1b	Ppp2r2b	Ptpa	Prkaa1	Prkaa2
F	Prkab1	Prkab2	Prkaca	Prkacb	Kmtfd	Prkag2	Prkag3	Prkar1a	Prkar1b	Prkar2a	Prkar2b	Rb1cc1
G	Rps6kb1	Rps6kb2	Rptor	Slc2a4	Srebfl	Slk11	Strada	Stradb	Tp53	Tsc1	Tsc2	Ulk1
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	QIC	QIC	QIC	QIC	PPC	PPC

## Gene table: QuantiNova LNA Probe PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	UPFR1068311	ENSRNOT00000088138.1	Acaca	ENSRNOG0000034013	acetyl-CoA carboxylase alpha Source RGD Symbol Acc 621248
A02	UPFR1043941	ENSRNOT00000080557.1	Acacb	ENSRNOG0000000658	acetyl-CoA carboxylase beta Source RGD Symbol Acc 620500
A03	UPFR1081829	ENSRNOT00000005551.4	Adipor1	ENSRNOG0000004143	adiponectin receptor 1 Source RGD Symbol Acc 1303151
A04	UPFR1078945	ENSRNOT00000010556.5	Adipor2	ENSRNOG0000007990	adiponectin receptor 2 Source RGD Symbol Acc 1307891
A05	UPFR1015154	ENSRNOT00000012736.3	Adra1a	ENSRNOG0000009522	adrenoceptor alpha 1A Source RGD Symbol Acc 2055
A06	UPFR1109473	ENSRNOT00000087937.1	Adra1b	ENSRNOG0000060087	adrenoceptor alpha 1B Source RGD Symbol Acc 2054
A07	UPFR1071837	ENSRNOT00000028877.2	Adra1d	ENSRNOG0000021256	adrenoceptor alpha 1D Source RGD Symbol Acc 62064
A08	UPFR1111906	ENSRNOT00000071541.1	Adra2a	ENSRNOG0000047545	adrenoceptor alpha 2A Source RGD Symbol Acc 2056
A09	UPFR1015575	ENSRNOT00000018584.6	Adra2b	ENSRNOG0000013887	adrenoceptor alpha 2B Source RGD Symbol Acc 2057
A10	UPFR1126545	ENSRNOT00000012322.3	Adra2c	ENSRNOG0000009299	adrenoceptor alpha 2C Source RGD Symbol Acc 2058
A11	UPFR1019215	ENSRNOT00000091048.1	AABR07051450.1	ENSRNOG0000049056	
A12	UPFR1082432	ENSRNOT00000000134.4	Ak2	ENSRNOG0000000122	adenylate kinase 2 Source RGD Symbol Acc 2077
B01	UPFR1089202	ENSRNOT00000079875.1	Ak3	ENSRNOG0000052506	adenylate kinase 3 Source RGD Symbol Acc 619885
B02	UPFR1083196	ENSRNOT00000031164.3	Akt1	ENSRNOG0000028629	AKT serine/threonine kinase 1 Source RGD Symbol Acc 2081
B03	UPFR1088137	ENSRNOT00000025303.3	Akt2	ENSRNOG0000018677	AKT serine/threonine kinase 2 Source RGD Symbol Acc 2082
B04	UPFR1105050	ENSRNOT00000085648.1	Akt3	ENSRNOG0000021497	AKT serine/threonine kinase 3 Source RGD Symbol Acc 62390
B05	UPFR1064522	ENSRNOT00000022841.7	Atg13	ENSRNOG0000016984	autophagy related 13 Source RGD Symbol Acc 1310685
B06	UPFR1096274	ENSRNOT00000085332.1	Cab39	ENSRNOG0000017297	calcium binding protein 39 Source RGD Symbol Acc 1306390
B07	UPFR1031402	ENSRNOT00000025009.6	Camkk1	ENSRNOG0000018242	calcium/calmodulin-dependent protein kinase kinase 1 Source RGD Symbol Acc 62023
B08	UPFR1026131	ENSRNOT00000001774.6	Camkk2	ENSRNOG0000001309	calcium/calmodulin-dependent protein kinase kinase 2 Source RGD Symbol Acc 620092
B09	UPFR1071991	ENSRNOT00000024706.4	Chrna1	ENSRNOG0000018286	cholinergic receptor nicotinic alpha 1 subunit Source RGD Symbol Acc 69277
B10	UPFR1031666	ENSRNOT00000019947.3	Chrnb1	ENSRNOG0000014698	cholinergic receptor nicotinic beta 1 subunit Source RGD Symbol Acc 2349
B11	UPFR1101909	ENSRNOT00000019652.3	Cpt1a	ENSRNOG0000014254	carnitine palmitoyltransferase 1A Source RGD Symbol Acc 2396
B12	UPFR1021462	ENSRNOT00000013985.3	Cpt1b	ENSRNOG0000010438	carnitine palmitoyltransferase 1B Source RGD Symbol Acc 2397
C01	UPFR1052989	ENSRNOT00000035908.4	Cpt1c	ENSRNOG0000026163	carnitine palmitoyltransferase 1c Source RGD Symbol Acc 1305384
C02	UPFR1106957	ENSRNOT00000016954.3	Cpt2	ENSRNOG0000012443	carnitine palmitoyltransferase 2 Source RGD Symbol Acc 2398
C03	UPFR1076223	ENSRNOT00000092144.1	Crtc2	ENSRNOG0000056337	CREB regulated transcription coactivator 2 Source RGD Symbol Acc 1308903
C04	UPFR1016490	ENSRNOT00000009124.5	Cry1	ENSRNOG0000006622	cryptochrome circadian regulator 1 Source RGD Symbol Acc 735083
C05	UPFR1090942	ENSRNOT00000022726.5	Eef2k	ENSRNOG0000016448	eukaryotic elongation factor-2 kinase Source RGD Symbol Acc 2538
C06	UPFR1083445	ENSRNOT00000016885.5	Eif4ebp1	ENSRNOG0000012582	eukaryotic translation initiation factor 4E binding protein 1 Source RGD Symbol Acc 620259
C07	UPFR1019416	ENSRNOT00000001415.6	Elavl1	ENSRNOG0000001069	ELAV like RNA binding protein 1 Source RGD Symbol Acc 1308649
C08	UPFR1036900	ENSRNOT00000073321.2	Fasn	ENSRNOG0000045636	fatty acid synthase Source RGD Symbol Acc 620665
C09	UPFR1095067	ENSRNOT00000000327.5	Foxo3	ENSRNOG0000000299	forkhead box O3 Source RGD Symbol Acc 1309196
C10	UPFR1038077	ENSRNOT00000092170.1	Gpam	ENSRNOG0000015124	glycerol-3-phosphate acyltransferase, mitochondrial Source RGD Symbol Acc 61847
		ENSRNOT000000		ENSRNOG00	glycerol-3-phosphate acyltransferase 2, mitochondrial Source RGD Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFR1065874	018677.6	Gpat2	000013906	1304904
C12	UPFR1022867	ENSRNOT00000028271.3	Gys1	ENSRNOG0000020812	glycogen synthase 1 Source RGD Symbol Acc 1589798
D01	UPFR1040150	ENSRNOT00000090122.1	Gys2	ENSRNOG0000059753	glycogen synthase 2 Source RGD Symbol Acc 2773
D02	UPFR1042968	ENSRNOT00000022055.4	Hmgcr	ENSRNOG0000016122	3-hydroxy-3-methylglutaryl-CoA reductase Source RGD Symbol Acc 2803
D03	UPFR1098273	ENSRNOT00000089893.1	Hnf4a	ENSRNOG0000008895	hepatocyte nuclear factor 4, alpha Source RGD Symbol Acc 2810
D04	UPFR1014864	ENSRNOT00000041155.3	Insr	ENSRNOG0000029986	insulin receptor Source RGD Symbol Acc 2917
D05	UPFR1076079	ENSRNOT00000050597.5	Lepr	ENSRNOG0000023664	leptin receptor Source RGD Symbol Acc 3001
D06	UPFR1057468	ENSRNOT00000027910.2	Lipe	ENSRNOG0000020546	lipase E, hormone sensitive type Source RGD Symbol Acc 3010
D07	UPFR1058121	ENSRNOT00000019923.5	Mlycd	ENSRNOG0000014522	malonyl-CoA decarboxylase Source RGD Symbol Acc 620234
D08	UPFR1112219	ENSRNOT00000080751.1	Mtor	ENSRNOG0000009615	mechanistic target of rapamycin kinase Source RGD Symbol Acc 68371
D09	UPFR1093188	ENSRNOT00000067660.1	Pdpk1	ENSRNOG0000006136	3-phosphoinositide dependent protein kinase-1 Source RGD Symbol Acc 620307
D10	UPFR1118116	ENSRNOT00000081239.1	Pfkfb1	ENSRNOG0000000165	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 1 Source RGD Symbol Acc 3307
D11	UPFR1119263	ENSRNOT00000037679.6	Pfkfb2	ENSRNOG0000004162	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 2 Source RGD Symbol Acc 3309
D12	UPFR1019335	ENSRNOT00000068354.3	Pfkfb3	ENSRNOG0000018911	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3 Source RGD Symbol Acc 619776
E01	UPFR1066131	ENSRNOT00000091573.1	LOC100911725	ENSRNOG0000020656	6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4-like Source RGD Symbol Acc 6491338
E02	UPFR1063233	ENSRNOT00000025319.6	LOC100911615	ENSRNOG0000018736	patatin-like phospholipase domain-containing protein 2-like Source RGD Symbol Acc 6492173
E03	UPFR1107303	ENSRNOT00000006071.5	Ppargc1a	ENSRNOG0000004473	PPARG coactivator 1 alpha Source RGD Symbol Acc 620925
E04	UPFR1114270	ENSRNOT00000023661.5	Ppargc1b	ENSRNOG0000017503	PPARG coactivator 1 beta Source RGD Symbol Acc 727948
E05	UPFR1111771	ENSRNOT00000007621.5	LOC103694903	ENSRNOG0000005389	serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform Source RGD Symbol Acc 9257421
E06	UPFR1078818	ENSRNOT00000020663.3	Ppp2cb	ENSRNOG0000015182	protein phosphatase 2 catalytic subunit beta Source RGD Symbol Acc 3381
E07	UPFR1075057	ENSRNOT00000015019.6	Ppp2r1a	ENSRNOG0000011282	protein phosphatase 2 scaffold subunit A alpha Source RGD Symbol Acc 620907
E08	UPFR1072545	ENSRNOT00000064290.2	Ppp2r1b	ENSRNOG0000010922	protein phosphatase 2 scaffold subunit A beta Source RGD Symbol Acc 1304764
E09	UPFR1035056	ENSRNOT00000041188.4	Ppp2r2b	ENSRNOG0000018851	protein phosphatase 2, regulatory subunit B, beta Source RGD Symbol Acc 631441
E10	UPFR1036048	ENSRNOT00000024914.5	Ptpa	ENSRNOG0000018457	protein phosphatase 2 phosphatase activator Source RGD Symbol Acc 1308354
E11	UPFR1073875	ENSRNOT00000017626.5	Prkaa1	ENSRNOG0000012799	protein kinase AMP-activated catalytic subunit alpha 1 Source RGD Symbol Acc 3387
E12	UPFR1026650	ENSRNOT00000010680.3	Prkaa2	ENSRNOG0000007706	protein kinase AMP-activated catalytic subunit alpha 2 Source RGD Symbol Acc 620893
F01	UPFR1066685	ENSRNOT00000001508.3	Prkab1	ENSRNOG0000001142	protein kinase AMP-activated non-catalytic subunit beta 1 Source RGD Symbol Acc 71057
F02	UPFR1070754	ENSRNOT00000086588.1	Prkab2	ENSRNOG0000018166	protein kinase AMP-activated non-catalytic subunit beta 2 Source RGD Symbol Acc 620905
F03	UPFR1048640	ENSRNOT00000041717.4	Prkaca	ENSRNOG0000005257	protein kinase cAMP-activated catalytic subunit alpha Source RGD Symbol Acc 3389
F04	UPFR1055817	ENSRNOT00000068739.1	Prkacb	ENSRNOG0000004978	protein kinase cAMP-activated catalytic subunit beta Source RGD Symbol Acc 1310574
F05	UPFR1057561	ENSRNOT00000077502.1	Kmt2d	ENSRNOG0000061499	protein kinase AMP-activated non-catalytic subunit gamma 1 Source RGD Symbol Acc 3388
F06	UPFR1041033	ENSRNOT00000067183.3	Prkag2	ENSRNOG0000009085	protein kinase AMP-activated non-catalytic subunit gamma 2 Source RGD Symbol Acc 727782
F07	UPFR1119563	ENSRNOT00000023365.5	Prkag3	ENSRNOG0000017248	protein kinase AMP-activated non-catalytic subunit gamma 3 Source RGD Symbol Acc 1308698
F08	UPFR1013216	ENSRNOT00000071153.1	Prkar1a	ENSRNOG0000049876	protein kinase cAMP-dependent type 1 regulatory subunit alpha Source RGD Symbol Acc 3391
F09	UPFR1032512	ENSRNOT00000031896.6	Prkar1b	ENSRNOG0000028733	protein kinase cAMP-dependent type 1 regulatory subunit beta Source RGD Symbol Acc 3392
F10	UPFR1046643	ENSRNOT00000027552.3	Prkar2a	ENSRNOG0000020284	protein kinase cAMP-dependent type 2 regulatory subunit alpha Source RGD Symbol Acc 3393

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFR1022805	ENSRNOT00000012415.6	Prkar2b	ENSRNOG0000009079	protein kinase cAMP-dependent type 2 regulatory subunit beta Source RGD Symbol Acc 3394
F12	UPFR1084799	ENSRNOT00000061884.2	Rb1cc1	ENSRNOG0000006833	RB1 -inducible coiled-coil 1 Source RGD Symbol Acc 1309346
G01	UPFR1107808	ENSRNOT00000005226.4	Rps6kb1	ENSRNOG0000003919	ribosomal protein S6 kinase B1 Source RGD Symbol Acc 620683
G02	UPFR1043658	ENSRNOT00000083204.1	Rps6kb2	ENSRNOG0000021689	ribosomal protein S6 kinase B2 Source RGD Symbol Acc 1305144
G03	UPFR1015027	ENSRNOT00000005337.6	Rptor	ENSRNOG0000003821	regulatory associated protein of MTOR, complex 1 Source RGD Symbol Acc 1311784
G04	UPFR1026140	ENSRNOT00000023256.5	Slc2a4	ENSRNOG0000017226	solute carrier family 2 member 4 Source RGD Symbol Acc 2711
G05	UPFR1104408	ENSRNOT00000004753.5	Srebfl	ENSRNOG0000003463	sterol regulatory element binding transcription factor 1 Source RGD Symbol Acc 69423
G06	UPFR1113401	ENSRNOT00000060683.3	Stk11	ENSRNOG0000014287	serine/threonine kinase 11 Source RGD Symbol Acc 1308653
G07	UPFR1086388	ENSRNOT00000055125.4	Strada	ENSRNOG0000008637	STE20 related adaptor alpha Source RGD Symbol Acc 727905
G08	UPFR1075097	ENSRNOT00000043558.2	Stradb	ENSRNOG0000010728	STE20 related adaptor beta Source RGD Symbol Acc 1559449
G09	UPFR1095007	ENSRNOT00000085115.1	Tp53	ENSRNOG0000010756	tumor protein p53 Source RGD Symbol Acc 3889
G10	UPFR1044594	ENSRNOT00000016904.3	Tsc1	ENSRNOG0000011470	TSC complex subunit 1 Source RGD Symbol Acc 620124
G11	UPFR1091158	ENSRNOT00000052138.6	Tsc2	ENSRNOG0000011375	TSC complex subunit 2 Source RGD Symbol Acc 3908
G12	UPFR1015373	ENSRNOT00000056790.3	Ulk1	ENSRNOG0000037505	unc-51 like autophagy activating kinase 1 Source RGD Symbol Acc 1589743
H01	UPFR1132952	ENSRNOT00000080216.1	Actb	ENSRNOG0000034254	actin, beta Source RGD Symbol Acc 628837
H02	UPFR1132953	ENSRNOT00000023017.5	B2m	ENSRNOG0000017123	beta-2 microglobulin Source RGD Symbol Acc 2189
H03	UPFR1132959	ENSRNOT00000065935.3	Hprt1	ENSRNOG0000048561	hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826
H04	UPFR1018740	ENSRNOT00000017468.2	Ldha	ENSRNOG0000013009	lactate dehydrogenase A Source RGD Symbol Acc 2996
H05	UPFR1132958	ENSRNOT00000018820.5	Rplp1	ENSRNOG0000013874	ribosomal protein lateral stalk subunit P1 Source RGD Symbol Acc 621774
H06	UPFR1126610	UPL_RGDC	RGDC	UPL_RGDC	Rat 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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