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

Rat AMPK Signaling

Cat. no. 249950 SBRN-175ZA

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** 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	AABR07051450.1	Ak2
B	Ak3	Akt1	Akt2	Akt3	Atg13	Cab39	Camkk1	Camkk2	Chrna1	Chrnb1	Cpt1a	Cpt1b
C	Cpt1c	Cpt2	Crtc2	Cry1	Eef2k	Eif4ebp1	Elavl1	Fasn	Foxo3	Gpam	Gpat2	Gys1
D	Gys2	Hmgcr	Hnf4a	Insr	Lepr	Lipe	Mlycd	Mtor	Pdpk1	Pfkfb1	Pfkfb2	Pfkfb3
E	LOC100911725	LOC100911615	Ppargc1a	Ppargc1b	LOC103694903	Ppp2cb	Ppp2r1a	Ppp2r1b	Ppp2r2b	Ptpa	Prkaa1	Prkaa2
F	Prkab1	Prkab2	Prkaca	Prkacb	Kmt2d	Prkag2	Prkag3	Prkar1a	Prkar1b	Prkar2a	Prkar2b	Rb1cc1
G	Rps6kb1	Rps6kb2	Rptor	Slc2a4	Srebf1	Stk11	Strada	Stradb	Tp53	Tsc1	Tsc2	Ulk1
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	QIC	QIC	QIC	PPC	PPC	PPC

Gene table: QuantiNova LNA PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	SBR1187866	ENSRNOT00000088138.1	Acaca	ENSRNOG00000034013	acetyl-CoA carboxylase alpha Source RGD Symbol Acc 621248
A02	SBR1144863	ENSRNOT00000000821.6	Acacb	ENSRNOG00000000658	acetyl-CoA carboxylase beta Source RGD Symbol Acc 620500
A03	SBR1163886	ENSRNOT00000005551.4	Adipor1	ENSRNOG00000004143	adiponectin receptor 1 Source RGD Symbol Acc 1303151
A04	SBR1107135	ENSRNOT00000010556.5	Adipor2	ENSRNOG00000007990	adiponectin receptor 2 Source RGD Symbol Acc 1307891
A05	SBR1152290	ENSRNOT00000012736.3	Adra1a	ENSRNOG00000009522	adrenoceptor alpha 1A Source RGD Symbol Acc 2055
A06	SBR1213334	ENSRNOT00000087937.1	Adra1b	ENSRNOG00000060087	adrenoceptor alpha 1B Source RGD Symbol Acc 2054
A07	SBR1115374	ENSRNOT00000028877.2	Adra1d	ENSRNOG00000021256	adrenoceptor alpha 1D Source RGD Symbol Acc 62064
A08	SBR1152272	ENSRNOT00000071541.1	Adra2a	ENSRNOG00000047545	adrenoceptor alpha 2A Source RGD Symbol Acc 2056
A09	SBR1108893	ENSRNOT00000018584.6	Adra2b	ENSRNOG00000013887	adrenoceptor alpha 2B Source RGD Symbol Acc 2057
A10	SBR1174261	ENSRNOT00000012322.3	Adra2c	ENSRNOG00000009299	adrenoceptor alpha 2C Source RGD Symbol Acc 2058
A11	SBR1178323	ENSRNOT00000091048.1	AABR07051450.1	ENSRNOG00000049056	
A12	SBR1190946	ENSRNOT00000000134.4	Ak2	ENSRNOG00000000122	adenylate kinase 2 Source RGD Symbol Acc 2077
B01	SBR1208995	ENSRNOT00000079875.1	Ak3	ENSRNOG00000052506	adenylate kinase 3 Source RGD Symbol Acc 619885
B02	SBR1163078	ENSRNOT00000031164.3	Akt1	ENSRNOG00000028629	AKT serine/threonine kinase 1 Source RGD Symbol Acc 2081
B03	SBR1190995	ENSRNOT00000025303.3	Akt2	ENSRNOG00000018677	AKT serine/threonine kinase 2 Source RGD Symbol Acc 2082
B04	SBR1132835	ENSRNOT00000085648.1	Akt3	ENSRNOG00000021497	AKT serine/threonine kinase 3 Source RGD Symbol Acc 62390
B05	SBR1193202	ENSRNOT00000022841.7	Atg13	ENSRNOG00000016984	autophagy related 13 Source RGD Symbol Acc 1310685
B06	SBR1126334	ENSRNOT00000085332.1	Cab39	ENSRNOG00000017297	calcium binding protein 39 Source RGD Symbol Acc 1306390
B07	SBR1191275	ENSRNOT00000025009.6	Camkk1	ENSRNOG00000018242	calcium/calmodulin-dependent protein kinase kinase 1 Source RGD Symbol Acc 62023
B08	SBR1142607	ENSRNOT00000001774.6	Camkk2	ENSRNOG00000001309	calcium/calmodulin-dependent protein kinase kinase 2 Source RGD Symbol Acc 620092
B09	SBR1172409	ENSRNOT00000024706.4	Chrna1	ENSRNOG00000018286	cholinergic receptor nicotinic alpha 1 subunit Source RGD Symbol Acc 69277
B10	SBR1102103	ENSRNOT00000019947.3	Chrnb1	ENSRNOG00000014698	cholinergic receptor nicotinic beta 1 subunit Source RGD Symbol Acc 2349
B11	SBR1143879	ENSRNOT00000019652.3	Cpt1a	ENSRNOG00000014254	carnitine palmitoyltransferase 1A Source RGD Symbol Acc 2396
B12	SBR1162370	ENSRNOT00000013985.3	Cpt1b	ENSRNOG00000010438	carnitine palmitoyltransferase 1B Source RGD Symbol Acc 2397
C01	SBR1096054	ENSRNOT00000035908.4	Cpt1c	ENSRNOG00000026163	carnitine palmitoyltransferase 1c Source RGD Symbol Acc 1305384
C02	SBR1129520	ENSRNOT00000016954.3	Cpt2	ENSRNOG00000012443	carnitine palmitoyltransferase 2 Source RGD Symbol Acc 2398
C03	SBR1198878	ENSRNOT00000092144.1	Crtc2	ENSRNOG00000056337	CREB regulated transcription coactivator 2 Source RGD Symbol Acc 1308903
C04	SBR1146612	ENSRNOT00000009124.5	Cry1	ENSRNOG00000006622	cryptochrome circadian regulator 1 Source RGD Symbol Acc 735083
C05	SBR1110324	ENSRNOT00000022726.5	Eef2k	ENSRNOG00000016448	eukaryotic elongation factor-2 kinase Source RGD Symbol Acc 2538
C06	SBR1186274	ENSRNOT00000016885.5	Eif4ebp1	ENSRNOG00000012582	eukaryotic translation initiation factor 4E binding protein 1 Source RGD Symbol Acc 620259
C07	SBR1103825	ENSRNOT00000001415.6	Elavl1	ENSRNOG00000001069	ELAV like RNA binding protein 1 Source RGD Symbol Acc 1308649
C08	SBR1216475	ENSRNOT00000073321.2	Fasn	ENSRNOG00000045636	fatty acid synthase Source RGD Symbol Acc 620665
C09	SBR1161322	ENSRNOT00000000327.5	Foxo3	ENSRNOG00000000299	forkhead box O3 Source RGD Symbol Acc 1309196
C10	SBR1166588	ENSRNOT00000083215.1	Gpam	ENSRNOG00000015124	glycerol-3-phosphate acyltransferase, mitochondrial Source RGD Symbol Acc 61847
		ENSRNOT00000		ENSRNOG00	glycerol-3-phosphate acyltransferase 2, mitochondrial Source RGD Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1108729	018677.6	Gpat2	000013906	1304904
C12	SBR1135273	ENSRNOT00000028271.3	Gys1	ENSRNOG00000020812	glycogen synthase 1 Source RGD Symbol Acc 1589798
D01	SBR1115079	ENSRNOT00000090122.1	Gys2	ENSRNOG00000059753	glycogen synthase 2 Source RGD Symbol Acc 2773
D02	SBR1198292	ENSRNOT00000022055.4	Hmgcr	ENSRNOG00000016122	3-hydroxy-3-methylglutaryl-CoA reductase Source RGD Symbol Acc 2803
D03	SBR1193762	ENSRNOT00000089893.1	Hnf4a	ENSRNOG00000008895	hepatocyte nuclear factor 4, alpha Source RGD Symbol Acc 2810
D04	SBR1131460	ENSRNOT00000041155.3	Insr	ENSRNOG00000029986	insulin receptor Source RGD Symbol Acc 2917
D05	SBR1152097	ENSRNOT00000093574.1	Lepr	ENSRNOG00000023664	leptin receptor Source RGD Symbol Acc 3001
D06	SBR1104445	ENSRNOT00000027910.2	Lipe	ENSRNOG00000020546	lipase E, hormone sensitive type Source RGD Symbol Acc 3010
D07	SBR1180185	ENSRNOT00000019923.5	Mlycd	ENSRNOG00000014522	malonyl-CoA decarboxylase Source RGD Symbol Acc 620234
D08	SBR1220576	ENSRNOT00000014167.7	Mtor	ENSRNOG00000009615	mechanistic target of rapamycin kinase Source RGD Symbol Acc 68371
D09	SBR1133385	ENSRNOT00000067660.1	Pdpk1	ENSRNOG00000006136	3-phosphoinositide dependent protein kinase-1 Source RGD Symbol Acc 620307
D10	SBR1129063	ENSRNOT00000033656.2	Pfkfb1	ENSRNOG00000000165	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 1 Source RGD Symbol Acc 3307
D11	SBR1142182	ENSRNOT00000050859.4	Pfkfb2	ENSRNOG00000004162	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 2 Source RGD Symbol Acc 3309
D12	SBR1213757	ENSRNOT00000051067.4	Pfkfb3	ENSRNOG00000018911	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3 Source RGD Symbol Acc 619776
E01	SBR1152891	ENSRNOT00000091573.1	LOC100911725	ENSRNOG00000020656	6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4-like Source RGD Symbol Acc 6491338
E02	SBR1103494	ENSRNOT00000025319.6	LOC100911615	ENSRNOG00000018736	patatin-like phospholipase domain-containing protein 2-like Source RGD Symbol Acc 6492173
E03	SBR1191958	ENSRNOT00000006071.5	Ppargc1a	ENSRNOG00000004473	PPARG coactivator 1 alpha Source RGD Symbol Acc 620925
E04	SBR1109181	ENSRNOT00000066048.3	Ppargc1b	ENSRNOG00000017503	PPARG coactivator 1 beta Source RGD Symbol Acc 727948
E05	SBR1176421	ENSRNOT00000007621.5	LOC103694903	ENSRNOG00000005389	serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform Source RGD Symbol Acc 9257421
E06	SBR1147274	ENSRNOT00000020663.3	Ppp2cb	ENSRNOG00000015182	protein phosphatase 2 catalytic subunit beta Source RGD Symbol Acc 3381
E07	SBR1130966	ENSRNOT00000015019.6	Ppp2r1a	ENSRNOG00000011282	protein phosphatase 2 scaffold subunit A alpha Source RGD Symbol Acc 620907
E08	SBR1163483	ENSRNOT00000064290.2	Ppp2r1b	ENSRNOG00000010922	protein phosphatase 2 scaffold subunit A beta Source RGD Symbol Acc 1304764
E09	SBR1117650	ENSRNOT00000041188.4	Ppp2r2b	ENSRNOG00000018851	protein phosphatase 2, regulatory subunit B, beta Source RGD Symbol Acc 631441
E10	SBR1174361	ENSRNOT00000024914.5	Ptpa	ENSRNOG00000018457	protein phosphatase 2 phosphatase activator Source RGD Symbol Acc 1308354
E11	SBR1120460	ENSRNOT00000017626.5	Prkaa1	ENSRNOG00000012799	protein kinase AMP-activated catalytic subunit alpha 1 Source RGD Symbol Acc 3387
E12	SBR1166352	ENSRNOT00000010680.3	Prkaa2	ENSRNOG00000007706	protein kinase AMP-activated catalytic subunit alpha 2 Source RGD Symbol Acc 620893
F01	SBR1162563	ENSRNOT00000001508.3	Prkab1	ENSRNOG00000001142	protein kinase AMP-activated non-catalytic subunit beta 1 Source RGD Symbol Acc 71057
F02	SBR1188517	ENSRNOT00000063783.2	Prkab2	ENSRNOG00000018166	protein kinase AMP-activated non-catalytic subunit beta 2 Source RGD Symbol Acc 620905
F03	SBR1139916	ENSRNOT00000041717.4	Prkaca	ENSRNOG00000005257	protein kinase cAMP-activated catalytic subunit alpha Source RGD Symbol Acc 3389
F04	SBR1138043	ENSRNOT00000068739.1	Prkacb	ENSRNOG00000004978	protein kinase cAMP-activated catalytic subunit beta Source RGD Symbol Acc 1310574
F05	SBR1161274	ENSRNOT00000083354.1	Kmt2d	ENSRNOG00000061499	protein kinase AMP-activated non-catalytic subunit gamma 1 Source RGD Symbol Acc 3388
F06	SBR1175590	ENSRNOT00000067183.3	Prkag2	ENSRNOG00000009085	protein kinase AMP-activated non-catalytic subunit gamma 2 Source RGD Symbol Acc 727782
F07	SBR1122356	ENSRNOT00000023365.5	Prkag3	ENSRNOG00000017248	protein kinase AMP-activated non-catalytic subunit gamma 3 Source RGD Symbol Acc 1308698
F08	SBR1206152	ENSRNOT00000071153.1	Prkar1a	ENSRNOG00000049876	protein kinase cAMP-dependent type 1 regulatory subunit alpha Source RGD Symbol Acc 3391
F09	SBR1117750	ENSRNOT00000031896.6	Prkar1b	ENSRNOG00000028733	protein kinase cAMP-dependent type 1 regulatory subunit beta Source RGD Symbol Acc 3392
F10	SBR1102023	ENSRNOT00000088705.1	Prkar2a	ENSRNOG00000020284	protein kinase cAMP-dependent type 2 regulatory subunit alpha Source RGD Symbol Acc 3393

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1158183	ENSRNOT00000082985.1	Prkar2b	ENSRNOG00000009079	protein kinase cAMP-dependent type 2 regulatory subunit beta Source RGD Symbol Acc 3394
F12	SBR1162178	ENSRNOT00000061884.2	Rb1cc1	ENSRNOG00000006833	RB1-inducible coiled-coil 1 Source RGD Symbol Acc 1309346
G01	SBR1105085	ENSRNOT00000005226.4	Rps6kb1	ENSRNOG00000003919	ribosomal protein S6 kinase B1 Source RGD Symbol Acc 620683
G02	SBR1133483	ENSRNOT00000029580.5	Rps6kb2	ENSRNOG00000021689	ribosomal protein S6 kinase B2 Source RGD Symbol Acc 1305144
G03	SBR1160593	ENSRNOT00000005337.6	Rptor	ENSRNOG00000003821	regulatory associated protein of MTOR, complex 1 Source RGD Symbol Acc 1311784
G04	SBR1096562	ENSRNOT00000023256.5	Slc2a4	ENSRNOG00000017226	solute carrier family 2 member 4 Source RGD Symbol Acc 2711
G05	SBR1114531	ENSRNOT00000047053.6	Srebf1	ENSRNOG00000003463	sterol regulatory element binding transcription factor 1 Source RGD Symbol Acc 69423
G06	SBR1146121	ENSRNOT00000060683.3	Stk11	ENSRNOG00000014287	serine/threonine kinase 11 Source RGD Symbol Acc 1308653
G07	SBR1126642	ENSRNOT00000011894.6	Strada	ENSRNOG00000008637	STE20 related adaptor alpha Source RGD Symbol Acc 727905
G08	SBR1205260	ENSRNOT00000043558.2	Stradb	ENSRNOG00000010728	STE20 related adaptor beta Source RGD Symbol Acc 1559449
G09	SBR1172374	ENSRNOT00000046490.3	Tp53	ENSRNOG00000010756	tumor protein p53 Source RGD Symbol Acc 3889
G10	SBR1131530	ENSRNOT00000016904.3	Tsc1	ENSRNOG00000011470	TSC complex subunit 1 Source RGD Symbol Acc 620124
G11	SBR1097853	ENSRNOT00000016221.3	Tsc2	ENSRNOG00000011375	TSC complex subunit 2 Source RGD Symbol Acc 3908
G12	SBR1188200	ENSRNOT00000056790.3	Ulk1	ENSRNOG00000037505	unc-51 like autophagy activating kinase 1 Source RGD Symbol Acc 1589743
H01	SBR1220567	ENSRNOT00000042459.4	Actb	ENSRNOG00000034254	actin, beta Source RGD Symbol Acc 628837
H02	SBR1220568	ENSRNOT00000023017.5	B2m	ENSRNOG00000017123	beta-2 microglobulin Source RGD Symbol Acc 2189
H03	SBR1225377	ENSRNOT00000065935.3	Hprt1	ENSRNOG00000048561	hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826
H04	SBR1122313	ENSRNOT00000017468.2	Ldha	ENSRNOG00000013009	lactate dehydrogenase A Source RGD Symbol Acc 2996
H05	SBR1220572	ENSRNOT00000018820.5	Rplp1	ENSRNOG00000013874	ribosomal protein lateral stalk subunit P1 Source RGD Symbol Acc 621774
H06	SBR1218555	Sybr_RGDC	RGDC	Sybr_RGDC	Rat 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 µl reactions: 20 µl 8x gDNA Removal Mix, 10 µl Reverse Transcription Enzyme, 40 µl Reverse Transcription Mix (containing RT primers), 20 µl Internal Control RNA, 1.9 ml RNase-Free Water	205410
QuantiNova SYBR Green RT-PCR Kit (100)*	For 100 x 20 µl reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 µl QuantiNova SYBR Green RT Mix, 20 µl Internal Control RNA, 500 µl Yellow Template Dilution Buffer, 250 µl ROX Reference Dye, 1.9 µl RNase-Free Water	208152
QuantiNova SYBR Green PCR Kit (100)*	For 100 x 20 µl reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 µl QuantiNova Yellow Template Dilution Buffer, 250 µl 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.

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 or can be requested from QIAGEN Technical Services or your local distributor.