

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

## Rat Cell Cycle

Cat. no. 249950 SBRN-020ZA

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
<b>A</b>	LOC1009097 50	Atm	Aurka	Aurkb	Bcl2	Birc5	Brcal	Brcal2	Casp3	Ccna1	Ccna2	Ccnb1
<b>B</b>	Ccnb3	Cnc	Ccnd1	Ccnd2	Ccnd3	Ccne1	Ccnf	Cdc20	Cdc25a	Cdc25b	Cdc25c	Cdc6
<b>C</b>	Cdc7	Cdk1	Cdk2	Cdk4	Cdk5rap1	Cdk6	Cdkn1a	Cdkn1b	Cdkn2a	Cdkn2b	Cdkn3	Stt3a
<b>D</b>	Chek2	Ddit3	Dsf	E2f1	E2f3	E2f4	Gadd45a	Gpr132	Hus1	Inha	Ilgb1	Mcm3
<b>E</b>	Mad2l1	Mcm2	Mcm4	Mdm2	Mki67	Mre11a	Msh2	Nbn	Nek2	Notch2	Pkd1	Pmp22
<b>F</b>	Ppm1d	Rad17	Rad21	Rad51	Rad9a	Ran	Rb1	Rbl1	Rbl2	Nfatc1	Sesn2	Sfn
<b>G</b>	Shc1	Skp2	AC128859.3	Smc1a	Stag1	Stmn1	Terf1	Tfdp2	Tp53	Tp63	Tsg101	Wee1
<b>H</b>	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	SBR1140753	ENSRNOT00000042495.5	LOC100909750	ENSRNOG0000047356	tyrosine-protein kinase ABL1-like Source RGD Symbol Acc 6502032
A02	SBR1113073	ENSRNOT00000050555.3	Atm	ENSRNOG0000029773	ATM serine/threonine kinase Source RGD Symbol Acc 1593265
A03	SBR1180416	ENSRNOT00000055102.4	Aurka	ENSRNOG0000004479	aurora kinase A Source RGD Symbol Acc 628895
A04	SBR1202691	ENSRNOT00000008492.6	Aurkb	ENSRNOG0000005659	aurora kinase B Source RGD Symbol Acc 621625
A05	SBR1170984	ENSRNOT00000003768.2	Bcl2	ENSRNOG0000002791	BCL2, apoptosis regulator Source RGD Symbol Acc 2199
A06	SBR1130503	ENSRNOT00000072387.1	Birc5	ENSRNOG0000050819	baculoviral IAP repeat-containing 5 Source RGD Symbol Acc 70499
A07	SBR1185089	ENSRNOT00000028109.3	Brca1	ENSRNOG0000020701	BRCA1, DNA repair associated Source RGD Symbol Acc 2218
A08	SBR1095330	ENSRNOT00000001475.7	Brca2	ENSRNOG0000001111	BRCA2, DNA repair associated Source RGD Symbol Acc 2219
A09	SBR1123217	ENSRNOT00000014095.5	Casp3	ENSRNOG0000010475	caspase 3 Source RGD Symbol Acc 2275
A10	SBR1129309	ENSRNOT00000040002.4	Ccna1	ENSRNOG0000014052	cyclin A1 Source RGD Symbol Acc 1310639
A11	SBR1106408	ENSRNOT00000021156.6	Ccna2	ENSRNOG0000015423	cyclin A2 Source RGD Symbol Acc 621059
A12	SBR1142548	ENSRNOT00000082846.1	Ccnb1	ENSRNOG0000058539	cyclin B1 Source RGD Symbol Acc 2291
B01	SBR1130104	ENSRNOT00000003954.6	Ccnb3	ENSRNOG000002951	cyclin B3 Source RGD Symbol Acc 1564367
B02	SBR1185157	ENSRNOT00000011442.6	Ccnc	ENSRNOG0000007719	cyclin C Source RGD Symbol Acc 70905
B03	SBR1211432	ENSRNOT00000028411.3	Ccnd1	ENSRNOG0000020918	cyclin D1 Source RGD Symbol Acc 68384
B04	SBR1095869	ENSRNOT00000086440.1	Ccnd2	ENSRNOG0000057710	cyclin D2 Source RGD Symbol Acc 621083
B05	SBR1162864	ENSRNOT00000074217.1	Ccnd3	ENSRNOG0000050258	cyclin D3 Source RGD Symbol Acc 2293
B06	SBR1171340	ENSRNOT00000020014.4	Ccne1	ENSRNOG0000014786	cyclin E1 Source RGD Symbol Acc 2294
B07	SBR1198223	ENSRNOT00000064392.1	Ccnf	ENSRNOG0000007483	cyclin F Source RGD Symbol Acc 67401
B08	SBR1121532	ENSRNOT00000036151.4	Cdc20	ENSRNOG0000028415	cell division cycle 20 Source RGD Symbol Acc 620477
B09	SBR1114792	ENSRNOT00000028141.7	Cdc25a	ENSRNOG0000020737	cell division cycle 25A Source RGD Symbol Acc 621498
B10	SBR1124335	ENSRNOT00000051064.2	Cdc25b	ENSRNOG0000021248	cell division cycle 25B Source RGD Symbol Acc 621500
B11	SBR1194259	ENSRNOT00000037368.6	Cdc25c	ENSRNOG0000024008	cell division cycle 25C Source RGD Symbol Acc 1311875
B12	SBR1190556	ENSRNOT00000081424.1	Cdc6	ENSRNOG0000027787	cell division cycle 6 Source RGD Symbol Acc 1309157
C01	SBR1154676	ENSRNOT00000068520.1	Cdc7	ENSRNOG0000002105	cell division cycle 7 Source RGD Symbol Acc 1308351
C02	SBR1169863	ENSRNOT00000081113.1	Cdk1	ENSRNOG0000000632	cyclin-dependent kinase 1 Source RGD Symbol Acc 2319
C03	SBR1144473	ENSRNOT00000031963.3	Cdk2	ENSRNOG0000006469	cyclin dependent kinase 2 Source RGD Symbol Acc 70486
C04	SBR1175190	ENSRNOT00000031796.4	Cdk4	ENSRNOG0000025602	cyclin-dependent kinase 4 Source RGD Symbol Acc 621120
C05	SBR1179353	ENSRNOT00000021418.6	Cdk5rap1	ENSRNOG0000015696	CDK5 regulatory subunit associated protein 1 Source RGD Symbol Acc 708387
C06	SBR1193058	ENSRNOT00000012597.6	Cdk6	ENSRNOG0000009258	cyclin-dependent kinase 6 Source RGD Symbol Acc 621121
C07	SBR1145142	ENSRNOT00000091731.1	Cdkn1a	ENSRNOG0000000521	cyclin-dependent kinase inhibitor 1A Source RGD Symbol Acc 69328
C08	SBR1124365	ENSRNOT00000049848.1	Cdkn1b	ENSRNOG0000007249	cyclin-dependent kinase inhibitor 1B Source RGD Symbol Acc 69062
C09	SBR1138605	ENSRNOT00000084293.1	Cdkn2a	ENSRNOG0000059837	cyclin-dependent kinase inhibitor 2A Source RGD Symbol Acc 2323
C10	SBR1182649	ENSRNOT00000092196.1	Cdkn2b	ENSRNOG0000006735	cyclin-dependent kinase inhibitor 2B Source RGD Symbol Acc 2324
		ENSRNOT000000		ENSRNOG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1139471	012985.6	Cdkn3	000009785	cyclin-dependent kinase inhibitor 3 Source RGD Symbol Acc 1307781
C12	SBR1115970	ENSRNOT00000 043518.4	Stt3a	ENSRNOG00 000031896	STT3A, catalytic subunit of the oligosaccharyltransferase complex Source RGD Symbol Acc 1565793
D01	SBR1132181	ENSRNOT00000 085591.1	Chek2	ENSRNOG00 000037509	checkpoint kinase 2 Source RGD Symbol Acc 621543
D02	SBR1210119	ENSRNOT00000 083472.1	Ddit3	ENSRNOG00 000006789	DNA-damage inducible transcript 3 Source RGD Symbol Acc 62391
D03	SBR1174076	ENSRNOT00000 044452.6	Dst	ENSRNOG00 000012207	dystonin Source RGD Symbol Acc 1306566
D04	SBR1191846	ENSRNOT00000 022428.6	E2f1	ENSRNOG00 000016708	N-terminal EF-hand calcium binding protein 3 Source RGD Symbol Acc 1310124
D05	SBR1164367	ENSRNOT00000 050261.5	E2f3	ENSRNOG00 000029273	E2F transcription factor 3 Source RGD Symbol Acc 1561600
D06	SBR1202978	ENSRNOT00000 021145.7	E2f4	ENSRNOG00 000015708	E2F transcription factor 4 Source RGD Symbol Acc 2322129
D07	SBR1179414	ENSRNOT00000 007698.6	Gadd45a	ENSRNOG00 000005615	growth arrest and DNA-damage-inducible, alpha Source RGD Symbol Acc 2654
D08	SBR1095221	ENSRNOT00000 018613.3	Gpr132	ENSRNOG00 000013914	G protein-coupled receptor 132 Source RGD Symbol Acc 1310817
D09	SBR1152038	ENSRNOT00000 091671.1	Hus1	ENSRNOG00 000005141	HUS1 checkpoint clamp component Source RGD Symbol Acc 1591976
D10	SBR1141256	ENSRNOT00000 027227.4	Inha	ENSRNOG00 000020097	inhibin subunit alpha Source RGD Symbol Acc 2912
D11	SBR1105686	ENSRNOT00000 014785.5	Itgb1	ENSRNOG00 000010966	integrin subunit beta 1 Source RGD Symbol Acc 2927
D12	SBR1200422	ENSRNOT00000 017081.7	Mcm3	ENSRNOG00 000012543	minichromosome maintenance complex component 3 Source RGD Symbol Acc 1305168
E01	SBR1108385	ENSRNOT00000 007285.5	Mad2l1	ENSRNOG00 000005376	mitotic arrest deficient 2 like 1 Source RGD Symbol Acc 1310889
E02	SBR1132926	ENSRNOT00000 022231.6	Mcm2	ENSRNOG00 000016316	minichromosome maintenance complex component 2 Source RGD Symbol Acc 1305577
E03	SBR1205933	ENSRNOT00000 002510.6	Mcm4	ENSRNOG00 000001833	minichromosome maintenance complex component 4 Source RGD Symbol Acc 3060
E04	SBR1110929	ENSRNOT00000 066767.2	Mdm2	ENSRNOG00 000006304	MDM2 proto-oncogene Source RGD Symbol Acc 1305332
E05	SBR1114480	ENSRNOT00000 038176.5	Mki67	ENSRNOG00 000028137	marker of proliferation Ki-67 Source RGD Symbol Acc 1305476
E06	SBR1133175	ENSRNOT00000 012940.4	Mre11a	ENSRNOG00 000009506	MRE11 homolog A, double strand break repair nuclease Source RGD Symbol Acc 69263
E07	SBR1147710	ENSRNOT00000 021538.7	Msh2	ENSRNOG00 000015796	mutS homolog 2 Source RGD Symbol Acc 620786
E08	SBR1194336	ENSRNOT00000 012377.4	Nbn	ENSRNOG00 000008580	nibrin Source RGD Symbol Acc 621420
E09	SBR1193644	ENSRNOT00000 006235.5	Nek2	ENSRNOG00 000004487	NIMA-related kinase 2 Source RGD Symbol Acc 619792
E10	SBR1107240	ENSRNOT00000 025718.4	Notch2	ENSRNOG00 000018835	notch 2 Source RGD Symbol Acc 3188
E11	SBR1126543	ENSRNOT00000 015092.7	Pkd1	ENSRNOG00 000010771	polycystin 1, transient receptor potential channel interacting Source RGD Symbol Acc 3333
E12	SBR1194278	ENSRNOT00000 081415.1	Pmp22	ENSRNOG00 000003338	peripheral myelin protein 22 Source RGD Symbol Acc 3359
F01	SBR1167655	ENSRNOT00000 004540.6	Ppm1d	ENSRNOG00 000003329	protein phosphatase, Mg2+/Mn2+ dependent, 1D Source RGD Symbol Acc 1305460
F02	SBR1186209	ENSRNOT00000 024801.4	Rad17	ENSRNOG00 000018353	RAD17 checkpoint clamp loader component Source RGD Symbol Acc 1309515
F03	SBR1105130	ENSRNOT00000 006209.5	Rad21	ENSRNOG00 000004420	RAD21 cohesin complex component Source RGD Symbol Acc 1594529
F04	SBR1098144	ENSRNOT00000 056432.2	Rad51	ENSRNOG00 000037302	RAD51 recombinase Source RGD Symbol Acc 1563603
F05	SBR1187108	ENSRNOT00000 025317.5	Rad9a	ENSRNOG00 000018729	RAD9 checkpoint clamp component A Source RGD Symbol Acc 2319938
F06	SBR1099056	ENSRNOT00000 001247.7	Ran	ENSRNOG00 000000938	RAN, member RAS oncogene family Source RGD Symbol Acc 620367
F07	SBR1123205	ENSRNOT00000 021752.5	Rb1	ENSRNOG00 000016029	RB transcriptional corepressor 1 Source RGD Symbol Acc 3540
F08	SBR1198435	ENSRNOT00000 064824.3	Rbl1	ENSRNOG00 000006921	RB transcriptional corepressor like 1 Source RGD Symbol Acc 1595511
F09	SBR1176291	ENSRNOT00000 017361.3	Rbl2	ENSRNOG00 000012153	RB transcriptional corepressor like 2 Source RGD Symbol Acc 3541
F10	SBR1175053	ENSRNOT00000 058382.4	Nfatc1	ENSRNOG00 000017146	nuclear factor of activated T-cells 1 Source RGD Symbol Acc 2319357

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1191837	ENSRNOT00000067455.3	Sesn2	ENSRNOG0000042785	sestrin 2 Source RGD Symbol Acc 1566319
F12	SBR1202515	ENSRNOT00000043959.4	Sfn	ENSRNOG0000033153	stratifin Source RGD Symbol Acc 1304729
G01	SBR1136735	ENSRNOT00000056652.4	Shc1	ENSRNOG0000020657	SHC adaptor protein 1 Source RGD Symbol Acc 620446
G02	SBR1113740	ENSRNOT00000089178.1	Skp2	ENSRNOG0000059059	S-phase kinase associated protein 2 Source RGD Symbol Acc 1562456
G03	SBR1215111	ENSRNOT00000075851.1	AC128859.3	ENSRNOG0000048053	
G04	SBR1190486	ENSRNOT00000004364.7	Smc1a	ENSRNOG0000003139	structural maintenance of chromosomes 1A Source RGD Symbol Acc 61991
G05	SBR1198117	ENSRNOT00000079618.1	Stag1	ENSRNOG0000015389	stromal antigen 1 Source RGD Symbol Acc 1310744
G06	SBR1151756	ENSRNOT00000022574.5	Stmn1	ENSRNOG0000016810	stathmin 1 Source RGD Symbol Acc 2992
G07	SBR1178041	ENSRNOT00000049741.2	Terf1	ENSRNOG0000007291	telomeric repeat binding factor 1 Source RGD Symbol Acc 1311574
G08	SBR1136535	ENSRNOT00000015015.6	Tfdp2	ENSRNOG0000011241	transcription factor Dp-2 Source RGD Symbol Acc 1305814
G09	SBR1172374	ENSRNOT00000046490.3	Tp53	ENSRNOG0000010756	tumor protein p53 Source RGD Symbol Acc 3889
G10	SBR1198629	ENSRNOT00000067251.4	Tp63	ENSRNOG0000001924	tumor protein p63 Source RGD Symbol Acc 620863
G11	SBR1204841	ENSRNOT00000018194.6	Tsg101	ENSRNOG0000013381	tumor susceptibility 101 Source RGD Symbol Acc 3909
G12	SBR1209055	ENSRNOT00000013362.5	Wee1	ENSRNOG0000010017	WEE1 G2 checkpoint kinase Source RGD Symbol Acc 1307895
H01	SBR1220567	ENSRNOT00000042459.4	Actb	ENSRNOG0000034254	actin, beta Source RGD Symbol Acc 628837
H02	SBR1220568	ENSRNOT00000023017.5	B2m	ENSRNOG0000017123	beta-2 microglobulin Source RGD Symbol Acc 2189
H03	SBR1225377	ENSRNOT00000065935.3	Hprt1	ENSRNOG0000048561	hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826
H04	SBR1122313	ENSRNOT00000017468.2	Ldha	ENSRNOG0000013009	lactate dehydrogenase A Source RGD Symbol Acc 2996
H05	SBR1220572	ENSRNOT00000018820.5	Rplp1	ENSRNOG0000013874	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 $\mu$ 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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