

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

Rat Ubiquitination (Ubiquitynylation)

Cat. no. 249950 SBRN-079ZA

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	Anapc2	Arlh1	Alg7	Bard1	Brca1	Brcc3	Birc	Cbl	Cdc34	Cul1	Cul2	Cul3
B	Cul4b	Cul5	Ddb1	Fbxo11	Fbxo32	Fbxo4	Fbxo6	Fbxw9	Hecw2	Itch	March5	Mdm2
C	Mib1	Mocs3	Mul1	Nae1	Nedd8	AABR0700151 9.1	Cop1	NEWGENE_15 59832	Rnf144b	Rnf167	Rnf180	Rnf2
D	Rnf20	Rnf34	Rnf40	Rnf6	Rnf8	Soe1	Skp1	Skp2	Smurf2	Stub1	Sym1	Tmem189
E	Tip53	Uba1	Uba3	Uba5	Uba6	Ube2a	LOC1036949 02	Ube2c	Ube2d1	Ube2d3	AABR0701704 6.1	Ube2e3
F	Ube2g1	Ube2g2	Ube2i	Ube2j1	Ube2j2	Ube2k	Ube2l3	Ube2l6	Ube2m	Ube2n	Ube2q1	Ube2q2
G	Ube2q2l	Ube2s	Ube2t	LOC1009126 18	Ube2v2	Ube2z	Ube4a	Uchl1	Uchl3	Uchl5	Vhl	Wwp1
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	SBR1191576	ENSRNOT00000015099.7	Anapc2	ENSRNOG0000011295	anaphase promoting complex subunit 2 Source RGD Symbol Acc 1305546
A02	SBR1125258	ENSRNOT00000084758.1	Arih1	ENSRNOG0000009887	ariadne RBR E3 ubiquitin protein ligase 1 Source RGD Symbol Acc 1308131
A03	SBR1149690	ENSRNOT00000067532.2	Atg7	ENSRNOG0000007486	autophagy related 7 Source RGD Symbol Acc 1304817
A04	SBR1172668	ENSRNOT00000087870.1	Bard1	ENSRNOG0000014960	BRCA1 associated RING domain 1 Source RGD Symbol Acc 621072
A05	SBR1185089	ENSRNOT00000028109.3	Brc1	ENSRNOG0000020701	BRCA1, DNA repair associated Source RGD Symbol Acc 2218
A06	SBR1112520	ENSRNOT00000071068.2	Brcc3	ENSRNOG0000048061	BRCA1/BRCA2-containing complex, subunit 3 Source RGD Symbol Acc 1588543
A07	SBR1214609	ENSRNOT00000022426.7	Btrc	ENSRNOG0000016280	beta-transducin repeat containing E3 ubiquitin protein ligase Source RGD Symbol Acc 1359721
A08	SBR1169005	ENSRNOT00000067902.3	Cbl	ENSRNOG0000008444	Cbl proto-oncogene Source RGD Symbol Acc 1561386
A09	SBR1126266	ENSRNOT00000088330.1	Cdc34	ENSRNOG0000060530	cell division cycle 34 Source RGD Symbol Acc 1305411
A10	SBR1108436	ENSRNOT00000085805.1	Cul1	ENSRNOG0000005310	cullin 1 Source RGD Symbol Acc 1308157
A11	SBR1167569	ENSRNOT00000079607.1	Cul2	ENSRNOG0000015292	cullin 2 Source RGD Symbol Acc 1310644
A12	SBR1113906	ENSRNOT00000093730.1	Cul3	ENSRNOG0000015633	cullin 3 Source RGD Symbol Acc 1308190
B01	SBR1128204	ENSRNOT00000065023.2	Cul4b	ENSRNOG0000002585	cullin 4B Source RGD Symbol Acc 1564494
B02	SBR1105886	ENSRNOT00000010956.4	Cul5	ENSRNOG0000008039	cullin 5 Source RGD Symbol Acc 621742
B03	SBR1165211	ENSRNOT00000028188.7	Ddb1	ENSRNOG0000020715	damage-specific DNA binding protein 1 Source RGD Symbol Acc 621889
B04	SBR1154034	ENSRNOT00000021998.5	Fbxo11	ENSRNOG0000016396	F-box protein 11 Source RGD Symbol Acc 727935
B05	SBR1146087	ENSRNOT00000010361.3	Fbxo32	ENSRNOG0000006738	F-box protein 32 Source RGD Symbol Acc 620373
B06	SBR1183186	ENSRNOT00000020925.6	Fbxo4	ENSRNOG0000015622	F-box protein 4 Source RGD Symbol Acc 1307580
B07	SBR1104182	ENSRNOT00000012301.4	Fbxo6	ENSRNOG0000009217	F-box protein 6 Source RGD Symbol Acc 620418
B08	SBR1175515	ENSRNOT000000005581.5	Fbxw9	ENSRNOG0000004212	F-box and WD repeat domain containing 9 Source RGD Symbol Acc 1307002
B09	SBR1169790	ENSRNOT00000017761.5	Hecw2	ENSRNOG0000013257	HECT, C2 and WW domain containing E3 ubiquitin protein ligase 2 Source RGD Symbol Acc 1593244
B10	SBR1170828	ENSRNOT00000078235.1	Itch	ENSRNOG0000059043	itchy E3 ubiquitin protein ligase Source RGD Symbol Acc 1359556
B11	SBR1131517	ENSRNOT00000023562.6	March5	ENSRNOG0000017396	membrane associated ring-CH-type finger 5 Source RGD Symbol Acc 1305617
B12	SBR1110929	ENSRNOT00000066767.2	Mdm2	ENSRNOG0000006304	MDM2 proto-oncogene Source RGD Symbol Acc 1305332
C01	SBR1184440	ENSRNOT00000092027.1	Mib1	ENSRNOG0000013281	mindbomb E3 ubiquitin protein ligase 1 Source RGD Symbol Acc 1307195
C02	SBR1132178	ENSRNOT00000039403.5	Mocs3	ENSRNOG0000025067	molybdenum cofactor synthesis 3 Source RGD Symbol Acc 1307044
C03	SBR1174154	ENSRNOT00000021833.7	Mul1	ENSRNOG0000016010	mitochondrial E3 ubiquitin protein ligase 1 Source RGD Symbol Acc 1309944
C04	SBR1214567	ENSRNOT00000048221.3	Nae1	ENSRNOG0000033133	NEDD8 activating enzyme E1 subunit 1 Source RGD Symbol Acc 619945
C05	SBR1138392	ENSRNOT00000064916.2	Nedd8	ENSRNOG0000019895	neural precursor cell expressed, developmentally down-regulated 8 Source RGD Symbol Acc 3158
C06	SBR1204540	ENSRNOT00000086127.1	AABR07001519.1	ENSRNOG0000055547	
C07	SBR1122775	ENSRNOT00000040505.6	Cop1	ENSRNOG0000042492	COP1, E3 ubiquitin ligase Source RGD Symbol Acc 1304773
C08	SBR1101020	ENSRNOT00000091325.1	NEWGENE_1559832	ENSRNOG0000002824	ring finger protein, LIM domain interacting Source RGD Symbol Acc 11393862
C09	SBR1118159	ENSRNOT00000082733.1	Rnf144b	ENSRNOG0000016123	ring finger protein 144B Source RGD Symbol Acc 1308856
C10	SBR1190507	ENSRNOT00000005242.4	Rnf167	ENSRNOG0000003879	ring finger protein 167 Source RGD Symbol Acc 1305972
		ENSRNOT000000		ENSRNOG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1130602	066069.3	Rnf180	000043329	ring finger protein 180 Source NCBI gene Acc 685384
C12	SBR1116695	ENSRNOT00000092053.1	Rnf2	ENSRNOG0000002454	ring finger protein 2 Source RGD Symbol Acc 1305491
D01	SBR1155308	ENSRNOT00000059869.3	Rnf20	ENSRNOG0000006087	ring finger protein 20 Source RGD Symbol Acc 1311936
D02	SBR1162964	ENSRNOT00000001799.5	Rnf34	ENSRNOG0000001331	ring finger protein 34 Source RGD Symbol Acc 628636
D03	SBR1093992	ENSRNOT00000025499.2	Rnf40	ENSRNOG0000018840	ring finger protein 40 Source RGD Symbol Acc 628638
D04	SBR1161872	ENSRNOT00000092401.1	Rnf6	ENSRNOG0000000968	ring finger protein 6 Source RGD Symbol Acc 1306092
D05	SBR1140859	ENSRNOT00000065629.2	Rnf8	ENSRNOG0000047171	ring finger protein 8 Source RGD Symbol Acc 1308035
D06	SBR1127509	ENSRNOT00000020402.6	Sae1	ENSRNOG0000015128	SUMO1 activating enzyme subunit 1 Source RGD Symbol Acc 1306098
D07	SBR1097884	ENSRNOT00000007676.7	Skp1	ENSRNOG0000005828	S-phase kinase-associated protein 1 Source RGD Symbol Acc 1359648
D08	SBR1113740	ENSRNOT000000089178.1	Skp2	ENSRNOG00000059059	S-phase kinase associated protein 2 Source RGD Symbol Acc 1562456
D09	SBR1108511	ENSRNOT00000019781.6	Smurf2	ENSRNOG0000014623	SMAD specific E3 ubiquitin protein ligase 2 Source RGD Symbol Acc 1310067
D10	SBR1163016	ENSRNOT00000026921.6	Stub1	ENSRNOG0000019798	STIP1 homology and U-box containing protein 1 Source RGD Symbol Acc 1306167
D11	SBR1193061	ENSRNOT00000028462.6	Syvn1	ENSRNOG0000020950	synoviolin 1 Source RGD Symbol Acc 1310488
D12	SBR1192321	ENSRNOT000000089040.1	Tmem189	ENSRNOG0000060571	transmembrane protein 189 Source RGD Symbol Acc 1309093
E01	SBR1172374	ENSRNOT000000046490.3	Tp53	ENSRNOG0000010756	tumor protein p53 Source RGD Symbol Acc 3889
E02	SBR1193881	ENSRNOT000000031115.4	Uba1	ENSRNOG0000019164	ubiquitin-like modifier activating enzyme 1 Source RGD Symbol Acc 1359327
E03	SBR1154921	ENSRNOT000000008893.7	Uba3	ENSRNOG0000006221	ubiquitin-like modifier activating enzyme 3 Source RGD Symbol Acc 621084
E04	SBR1184469	ENSRNOT000000015240.5	Uba5	ENSRNOG0000011027	ubiquitin-like modifier activating enzyme 5 Source RGD Symbol Acc 1311702
E05	SBR1176282	ENSRNOT000000037509.5	Uba6	ENSRNOG0000021931	ubiquitin-like modifier activating enzyme 6 Source RGD Symbol Acc 1308324
E06	SBR1121305	ENSRNOT000000061455.5	Ube2a	ENSRNOG0000039985	ubiquitin-conjugating enzyme E2A Source RGD Symbol Acc 1359534
E07	SBR1120947	ENSRNOT000000016742.7	LOC103694902	ENSRNOG0000005064	ubiquitin-conjugating enzyme E2B Source RGD Symbol Acc 708345
E08	SBR1213067	ENSRNOT000000020323.3	Ube2c	ENSRNOG0000015131	ubiquitin-conjugating enzyme E2C Source RGD Symbol Acc 1305382
E09	SBR1175964	ENSRNOT000000000750.7	Ube2d1	ENSRNOG0000000611	ubiquitin-conjugating enzyme E2D 1 Source RGD Symbol Acc 1307886
E10	SBR1179751	ENSRNOT000000083181.1	Ube2d3	ENSRNOG0000013741	ubiquitin-conjugating enzyme E2D 3 Source RGD Symbol Acc 619912
E11	SBR1135524	ENSRNOT000000046879.3	AABR07017046.1	ENSRNOG0000032690	ubiquitin-conjugating enzyme E2E 2 Source NCBI gene Acc 361013
E12	SBR1161400	ENSRNOT000000006429.7	Ube2e3	ENSRNOG0000004544	ubiquitin-conjugating enzyme E2E 3 Source RGD Symbol Acc 1308894
F01	SBR1204506	ENSRNOT000000013486.4	Ube2g1	ENSRNOG0000010041	ubiquitin-conjugating enzyme E2G 1 Source RGD Symbol Acc 620392
F02	SBR1210390	ENSRNOT000000001636.7	Ube2g2	ENSRNOG0000001222	ubiquitin-conjugating enzyme E2G 2 Source RGD Symbol Acc 1304860
F03	SBR1163111	ENSRNOT000000024406.6	Ube2i	ENSRNOG0000017907	ubiquitin-conjugating enzyme E2I Source RGD Symbol Acc 3926
F04	SBR1169260	ENSRNOT000000041271.5	Ube2j1	ENSRNOG0000007434	ubiquitin-conjugating enzyme E2, J1 Source RGD Symbol Acc 1305067
F05	SBR1148781	ENSRNOT000000077602.1	Ube2j2	ENSRNOG0000019749	ubiquitin-conjugating enzyme E2, J2 Source RGD Symbol Acc 1359523
F06	SBR1156640	ENSRNOT000000030485.5	Ube2k	ENSRNOG0000027088	ubiquitin-conjugating enzyme E2K Source RGD Symbol Acc 1311626
F07	SBR1192749	ENSRNOT000000046159.4	Ube2l3	ENSRNOG0000001862	ubiquitin-conjugating enzyme E2L 3 Source RGD Symbol Acc 1308361
F08	SBR1129235	ENSRNOT000000044319.4	Ube2l6	ENSRNOG0000030467	ubiquitin-conjugating enzyme E2L 6 Source RGD Symbol Acc 1307960
F09	SBR1105814	ENSRNOT000000031007.6	Ube2m	ENSRNOG0000027514	ubiquitin-conjugating enzyme E2M Source RGD Symbol Acc 1307614
F10	SBR1123959	ENSRNOT000000089874.1	Ube2n	ENSRNOG0000058053	ubiquitin-conjugating enzyme E2N Source RGD Symbol Acc 621096

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1166669	ENSRNOT00000028210.5	Ube2q1	ENSRNOG0000020791	ubiquitin conjugating enzyme E2 Q1 Source RGD Symbol Acc 1305305
F12	SBR1108837	ENSRNOT00000019539.7	Ube2q2	ENSRNOG0000014529	ubiquitin conjugating enzyme E2 Q2 Source NCBI gene Acc 363065
G01	SBR1152628	ENSRNOT00000035153.3	Ube2q2l	ENSRNOG0000023261	ubiquitin-conjugating enzyme E2Q family member 2-like Source RGD Symbol Acc 1563226
G02	SBR1165927	ENSRNOT00000022977.5	Ube2s	ENSRNOG0000016930	ubiquitin-conjugating enzyme E2S Source RGD Symbol Acc 1564746
G03	SBR1158492	ENSRNOT00000006747.4	Ube2t	ENSRNOG0000005038	ubiquitin-conjugating enzyme E2T Source RGD Symbol Acc 1310816
G04	SBR1198574	ENSRNOT00000035048.4	LOC100912618	ENSRNOG0000025580	similar to ubiquitin-conjugating enzyme E2 variant 1 Source RGD Symbol Acc 1587144
G05	SBR1147665	ENSRNOT00000031401.4	Ube2v2	ENSRNOG0000001829	ubiquitin conjugating enzyme E2 V2 Source RGD Symbol Acc 727838
G06	SBR1137399	ENSRNOT00000055500.2	Ube2z	ENSRNOG0000006868	ubiquitin-conjugating enzyme E2Z Source RGD Symbol Acc 1308347
G07	SBR1200951	ENSRNOT00000085022.1	Ube4a	ENSRNOG0000026833	ubiquitination factor E4A Source RGD Symbol Acc 1303173
G08	SBR1133680	ENSRNOT00000003248.5	Uchl1	ENSRNOG0000002343	ubiquitin C-terminal hydrolase L1 Source RGD Symbol Acc 3928
G09	SBR1136611	ENSRNOT00000012842.6	Uchl3	ENSRNOG0000009530	ubiquitin C-terminal hydrolase L3 Source RGD Symbol Acc 1561196
G10	SBR1215784	ENSRNOT00000077153.1	Uchl5	ENSRNOG0000003545	ubiquitin C-terminal hydrolase L5 Source RGD Symbol Acc 1305414
G11	SBR1164983	ENSRNOT00000013727.3	Vhl	ENSRNOG0000010258	von Hippel-Lindau tumor suppressor Source RGD Symbol Acc 3960
G12	SBR1198386	ENSRNOT00000009047.5	Wwp1	ENSRNOG0000006328	WW domain containing E3 ubiquitin protein ligase 1 Source RGD Symbol Acc 1311734
H01	SBR1220567	ENSRNOT00000042459.4	Actb	ENSRNOG00000034254	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 μ l reactions: 20 μ l 8x gDNA Removal Mix, 10 μ l Reverse Transcription Enzyme, 40 μ l Reverse Transcription Mix (containing RT primers), 20 μ l Internal Control RNA, 1.9 ml RNase-Free Water	205410
QuantiNova SYBR Green RT-PCR Kit (100)*	For 100 x 20 μ l reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 μ l QuantiNova SYBR Green RT Mix, 20 μ l Internal Control RNA, 500 μ l Yellow Template Dilution Buffer, 250 μ l ROX Reference Dye, 1.9 μ l RNase-Free Water	208152
QuantiNova SYBR Green PCR Kit (100)*	For 100 x 20 μ l reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 μ l QuantiNova Yellow Template Dilution Buffer, 250 μ 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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