

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

## Rat Synaptic Plasticity

Cat. no. 249950 SBRN-126ZA

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>	Adam10	Adcy1	Adcy8	Akt1	Arc	Bdnf	Camk2a	Camk2g	Cdh2	Cebpb	Cebpd	Cnr1
<b>B</b>	Creb1	Crem	Dlg4	Egr1	Egr2	Egr3	Egr4	Ephb2	Fos	Gabra5	Gnai1	Gria1
<b>C</b>	Gria2	Gria3	Gria4	Grin1	Grin2a	Grin2b	Grin2c	Grin2d	Grip1	Grm1	Grm2	Grm3
<b>D</b>	Grm4	Grm5	Grm7	Grm8	Homer1	Igf1	Inhba	Jun	Junb	Klf10	Mapk1	Mmp9
<b>E</b>	Ncam1	Nfk1	Nfkbb	Ngf	Ngfr	Nos1	Nptx2	Nr4a1	Nrf3	Nrf4	Ntrk2	Pcdh8
<b>F</b>	Pick1	Pim1	Plat	Plcg1	Ppp1ca	Ppp1cc	Ppp1r14a	LOC103694903	Ppp3ca	Prkca	Prkg	AABR07006727.1
<b>G</b>	Rab3a	Rela	Reln	Kif17	Rgs2	Rheb	AABR07044925.1	Srf	Sympo	Timp1	LOC103694380	Ywhaq
<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	SBR1129039	ENSRNOT00000083255.1	Adam10	ENSRNOG0000054257	ADAM metallopeptidase domain 10 Source RGD Symbol Acc 2032
A02	SBR1211599	ENSRNOT00000088032.1	Adcy1	ENSRNOG0000059479	adenylate cyclase 1 Source RGD Symbol Acc 1309318
A03	SBR1119638	ENSRNOT00000006789.6	Adcy8	ENSRNOG0000004890	adenylate cyclase 8 Source RGD Symbol Acc 2036
A04	SBR1163078	ENSRNOT00000031164.3	Akt1	ENSRNOG0000028629	AKT serine/threonine kinase 1 Source RGD Symbol Acc 2081
A05	SBR1101095	ENSRNOT00000076998.2	Arc	ENSRNOG0000043465	activity-regulated cytoskeleton-associated protein Source RGD Symbol Acc 62037
A06	SBR1172593	ENSRNOT00000083542.1	Bdnf	ENSRNOG0000047466	brain-derived neurotrophic factor Source RGD Symbol Acc 2202
A07	SBR1215824	ENSRNOT00000080177.1	Camk2a	ENSRNOG0000018712	calcium/calmodulin-dependent protein kinase II alpha Source RGD Symbol Acc 2261
A08	SBR1200638	ENSRNOT00000065644.4	Camk2g	ENSRNOG0000009783	calcium/calmodulin-dependent protein kinase II gamma Source RGD Symbol Acc 621802
A09	SBR1148414	ENSRNOT00000021170.6	Cdh2	ENSRNOG0000015602	cadherin 2 Source RGD Symbol Acc 69280
A10	SBR1114232	ENSRNOT00000083876.1	Cebpb	ENSRNOG0000057347	CCAAT/enhancer binding protein beta Source RGD Symbol Acc 2327
A11	SBR1129981	ENSRNOT00000074586.2	Cebpd	ENSRNOG0000050869	CCAAT/enhancer binding protein delta Source RGD Symbol Acc 2328
A12	SBR1112580	ENSRNOT00000010850.2	Cnr1	ENSRNOG0000008223	cannabinoid receptor 1 Source RGD Symbol Acc 2369
B01	SBR1179341	ENSRNOT00000049654.4	Creb1	ENSRNOG0000013412	cAMP responsive element binding protein 1 Source RGD Symbol Acc 620218
B02	SBR1147022	ENSRNOT00000020160.8	Creml	ENSRNOG0000014900	cAMP responsive element modulator Source RGD Symbol Acc 2402
B03	SBR1114299	ENSRNOT00000068493.2	Dlg4	ENSRNOG0000018526	discs large MAGUK scaffold protein 4 Source RGD Symbol Acc 68424
B04	SBR1216566	ENSRNOT00000026303.4	Egr1	ENSRNOG0000019422	early growth response 1 Source RGD Symbol Acc 2544
B05	SBR1213007	ENSRNOT00000000792.4	Egr2	ENSRNOG0000000640	early growth response 2 Source RGD Symbol Acc 621608
B06	SBR1171630	ENSRNOT00000077072.2	Egr3	ENSRNOG0000017828	early growth response 3 Source RGD Symbol Acc 2545
B07	SBR1216539	ENSRNOT00000021097.3	Egr4	ENSRNOG0000015719	early growth response 4 Source RGD Symbol Acc 2546
B08	SBR1096144	ENSRNOT00000016983.7	Ephb2	ENSRNOG0000012531	Eph receptor B2 Source RGD Symbol Acc 1564232
B09	SBR1110295	ENSRNOT00000010712.3	Fos	ENSRNOG0000008015	Fos proto-oncogene, AP-1 transcription factor subunit Source RGD Symbol Acc 2626
B10	SBR1216599	ENSRNOT00000093306.1	Gabra5	ENSRNOG0000010803	gamma-aminobutyric acid type A receptor alpha 5 subunit Source RGD Symbol Acc 61859
B11	SBR1166173	ENSRNOT00000091004.1	Gnai1	ENSRNOG0000057096	G protein subunit alpha i1 Source RGD Symbol Acc 2713
B12	SBR1181304	ENSRNOT00000073148.2	Gria1	ENSRNOG0000045816	glutamate ionotropic receptor AMPA type subunit 1 Source RGD Symbol Acc 621531
C01	SBR1126470	ENSRNOT00000077941.1	Gria2	ENSRNOG0000054204	glutamate ionotropic receptor AMPA type subunit 2 Source RGD Symbol Acc 61862
C02	SBR1198346	ENSRNOT00000029031.7	Gria3	ENSRNOG0000007682	glutamate ionotropic receptor AMPA type subunit 3 Source RGD Symbol Acc 70958
C03	SBR1136765	ENSRNOT00000081171.1	Gria4	ENSRNOG0000006957	glutamate ionotropic receptor AMPA type subunit 4 Source RGD Symbol Acc 61863
C04	SBR1215394	ENSRNOT00000044246.4	Grin1	ENSRNOG0000011726	glutamate ionotropic receptor NMDA type subunit 1 Source RGD Symbol Acc 2736
C05	SBR1188957	ENSRNOT00000044626.3	Grin2a	ENSRNOG0000033942	glutamate ionotropic receptor NMDA type subunit 2A Source RGD Symbol Acc 2737
C06	SBR1117521	ENSRNOT00000011697.4	Grin2b	ENSRNOG0000008766	glutamate ionotropic receptor NMDA type subunit 2B Source RGD Symbol Acc 2738
C07	SBR1207332	ENSRNOT00000004477.5	Grin2c	ENSRNOG0000003280	glutamate ionotropic receptor NMDA type subunit 2C Source RGD Symbol Acc 2739
C08	SBR1190738	ENSRNOT00000028615.4	Grin2d	ENSRNOG0000021063	glutamate ionotropic receptor NMDA type subunit 2D Source RGD Symbol Acc 2740
C09	SBR1134823	ENSRNOT00000088861.1	Grip1	ENSRNOG0000004013	glutamate receptor interacting protein 1 Source RGD Symbol Acc 621667
C10	SBR1115900	ENSRNOT00000044325.3	Grm1	ENSRNOG0000014290	glutamate metabotropic receptor 1 Source RGD Symbol Acc 2742
		ENSRNOT000000		ENSRNOG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1165238	017607.3	Grm2	000013171	glutamate metabotropic receptor 2 Source RGD Symbol Acc 2743
C12	SBR1095973	ENSRNOT0000007572.7	Grm3	ENSRNOG0000005519	glutamate metabotropic receptor 3 Source RGD Symbol Acc 2744
D01	SBR1182094	ENSRNOT00000066115.3	Grm4	ENSRNOG0000000487	glutamate metabotropic receptor 4 Source RGD Symbol Acc 2745
D02	SBR1162445	ENSRNOT00000050639.2	Grm5	ENSRNOG0000016429	glutamate metabotropic receptor 5 Source RGD Symbol Acc 2746
D03	SBR1096823	ENSRNOT00000056570.3	Grm7	ENSRNOG0000005662	glutamate metabotropic receptor 7 Source RGD Symbol Acc 619857
D04	SBR1099878	ENSRNOT00000031714.4	Grm8	ENSRNOG0000021468	glutamate metabotropic receptor 8 Source RGD Symbol Acc 619858
D05	SBR1121409	ENSRNOT00000071804.3	Homer1	ENSRNOG0000047014	homer scaffold protein 1 Source RGD Symbol Acc 628725
D06	SBR1185495	ENSRNOT00000038780.6	Igf1	ENSRNOG0000004517	insulin-like growth factor 1 Source RGD Symbol Acc 2868
D07	SBR1203713	ENSRNOT00000019272.5	Inhba	ENSRNOG0000014320	inhibin subunit beta A Source RGD Symbol Acc 62074
D08	SBR1133226	ENSRNOT00000011731.3	Jun	ENSRNOG0000026293	Jun proto-oncogene, AP-1 transcription factor subunit Source RGD Symbol Acc 2943
D09	SBR1195750	ENSRNOT00000067780.3	Junb	ENSRNOG0000042838	JunB proto-oncogene, AP-1 transcription factor subunit Source RGD Symbol Acc 2944
D10	SBR1192101	ENSRNOT00000008350.3	Klf10	ENSRNOG0000006118	Kruppel-like factor 10 Source RGD Symbol Acc 621652
D11	SBR1202944	ENSRNOT00000002533.7	Mapk1	ENSRNOG0000001849	mitogen activated protein kinase 1 Source RGD Symbol Acc 70500
D12	SBR1206750	ENSRNOT00000023965.3	Mmp9	ENSRNOG0000017539	matrix metalloproteinase 9 Source RGD Symbol Acc 621320
E01	SBR1143497	ENSRNOT00000042281.6	Ncam1	ENSRNOG00000031890	neural cell adhesion molecule 1 Source RGD Symbol Acc 67378
E02	SBR1111134	ENSRNOT00000036838.4	Nfkb1	ENSRNOG0000023258	nuclear factor kappa B subunit 1 Source RGD Symbol Acc 70498
E03	SBR1138816	ENSRNOT00000027212.5	Nfkbib	ENSRNOG0000020063	NFKB inhibitor beta Source RGD Symbol Acc 621887
E04	SBR1142365	ENSRNOT00000078376.1	Ngf	ENSRNOG0000016571	nerve growth factor Source RGD Symbol Acc 1598328
E05	SBR1176511	ENSRNOT00000007268.3	Ngfr	ENSRNOG0000005392	nerve growth factor receptor Source RGD Symbol Acc 3177
E06	SBR1157040	ENSRNOT00000066810.3	Nos1	ENSRNOG0000001130	nitric oxide synthase 1 Source RGD Symbol Acc 3184
E07	SBR1108140	ENSRNOT00000001331.4	Nptx2	ENSRNOG0000001006	neuronal pentraxin 2 Source RGD Symbol Acc 1309447
E08	SBR1104967	ENSRNOT00000010171.4	Nr4a1	ENSRNOG0000007607	nuclear receptor subfamily 4, group A, member 1 Source RGD Symbol Acc 620029
E09	SBR1142304	ENSRNOT00000082009.1	Nrf3	ENSRNOG0000019716	neurotrophin 3 Source RGD Symbol Acc 619728
E10	SBR1208936	ENSRNOT00000028194.2	Nrf4	ENSRNOG0000020783	neurotrophin 4 Source RGD Symbol Acc 3212
E11	SBR1097948	ENSRNOT00000090914.1	Ntrk2	ENSRNOG0000018839	neurotrophic receptor tyrosine kinase 2 Source RGD Symbol Acc 3213
E12	SBR1108360	ENSRNOT00000017599.3	Pcdh8	ENSRNOG0000013101	protocadherin 8 Source RGD Symbol Acc 69350
F01	SBR1216405	ENSRNOT00000016077.6	Pick1	ENSRNOG0000011507	protein interacting with PRKCA 1 Source RGD Symbol Acc 69437
F02	SBR1098014	ENSRNOT00000000637.5	Pim1	ENSRNOG0000000529	Pim-1 proto-oncogene, serine/threonine kinase Source RGD Symbol Acc 3330
F03	SBR1162717	ENSRNOT00000025763.6	Plat	ENSRNOG0000019018	plasminogen activator, tissue type Source RGD Symbol Acc 3342
F04	SBR1124010	ENSRNOT00000078909.1	Plcg1	ENSRNOG0000051490	phospholipase C, gamma 1 Source RGD Symbol Acc 3347
F05	SBR1178200	ENSRNOT00000091680.1	Ppp1ca	ENSRNOG0000018708	protein phosphatase 1 catalytic subunit alpha Source RGD Symbol Acc 3375
F06	SBR1175749	ENSRNOT00000078761.1	Ppp1cc	ENSRNOG0000001269	protein phosphatase 1 catalytic subunit gamma Source RGD Symbol Acc 3377
F07	SBR1187231	ENSRNOT00000028070.3	Ppp1r14a	ENSRNOG0000020676	protein phosphatase 1, regulatory (inhibitor) subunit 14A Source RGD Symbol Acc 620536
F08	SBR1176421	ENSRNOT00000007621.5	LOC103694903	ENSRNOG0000005389	serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform Source RGD Symbol Acc 9257421
F09	SBR1162958	ENSRNOT00000047975.5	Ppp3ca	ENSRNOG0000009882	protein phosphatase 3 catalytic subunit alpha Source RGD Symbol Acc 3382
F10	SBR1097570	ENSRNOT00000055073.4	Prkca	ENSRNOG0000003491	protein kinase C, alpha Source RGD Symbol Acc 3395

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1199108	ENSRNOT00000080032.1	Prkcg	ENSRNOG0000054371	protein kinase C, gamma Source RGD Symbol Acc 3397
F12	SBR1193564	ENSRNOT00000082874.1	AABR07006727.1	ENSRNOG0000052057	
G01	SBR1134885	ENSRNOT00000026391.6	Rab3a	ENSRNOG0000019433	RAB3A, member RAS oncogene family Source RGD Symbol Acc 3528
G02	SBR1138204	ENSRNOT00000045233.3	Rela	ENSRNOG0000030888	RELA proto-oncogene, NF-kB subunit Source RGD Symbol Acc 727889
G03	SBR1110791	ENSRNOT00000010521.8	Reln	ENSRNOG0000021441	reelin Source RGD Symbol Acc 3553
G04	SBR1149945	ENSRNOT00000020215.5	Kif17	ENSRNOG0000014970	kinesin family member 17 Source RGD Symbol Acc 1562511
G05	SBR1199490	ENSRNOT00000005156.6	Rgs2	ENSRNOG0000003687	regulator of G-protein signaling 2 Source RGD Symbol Acc 621665
G06	SBR1173372	ENSRNOT000000071737.2	Rheb	ENSRNOG0000050578	Ras homolog, mTORC1 binding Source RGD Symbol Acc 621840
G07	SBR1134550	ENSRNOT000000078739.1	AABR07044925.1	ENSRNOG0000051592	sirtuin 1 Source NCBI gene Acc 309757
G08	SBR1136781	ENSRNOT000000061430.3	Srf	ENSRNOG0000018232	serum response factor Source RGD Symbol Acc 1559787
G09	SBR1125566	ENSRNOT000000064686.1	Synpo	ENSRNOG0000019181	synaptopodin Source RGD Symbol Acc 620668
G10	SBR1154276	ENSRNOT000000013745.7	Timp1	ENSRNOG0000010208	TIMP metallopeptidase inhibitor 1 Source RGD Symbol Acc 621675
G11	SBR1187845	ENSRNOT000000079677.1	LOC103694380	ENSRNOG0000055156	tumor necrosis factor-like Source RGD Symbol Acc 9404643
G12	SBR1135023	ENSRNOT000000077786.1	Ywhaq	ENSRNOG0000051650	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, theta Source RGD Symbol Acc 3979
H01	SBR1220567	ENSRNOT000000042459.4	Actb	ENSRNOG0000034254	actin, beta Source RGD Symbol Acc 628837
H02	SBR1220568	ENSRNOT000000023017.5	B2m	ENSRNOG0000017123	beta-2 microglobulin Source RGD Symbol Acc 2189
H03	SBR1225377	ENSRNOT000000065935.3	Hprt1	ENSRNOG0000048561	hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826
H04	SBR1122313	ENSRNOT000000017468.2	Ldha	ENSRNOG0000013009	lactate dehydrogenase A Source RGD Symbol Acc 2996
H05	SBR1220572	ENSRNOT000000018820.5	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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