

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

## Rat Toll-Like Receptor Signaling Pathway

Cat. no. 249950 SBRN-018ZA

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>	Btk	Casp8	Ccl2	Cd14	Cd180	Cd80	Cd86	Cebpb	Chuk	Clec4e	Csf2	Csf3
<b>B</b>	Cxcl10	Elf2ak2	Fadd	Fos	AABR0703521 8.1	Hras	Hspa1a	Hspd1	Ifna5	Ifnb1	Ifng	Ikkkb
<b>C</b>	Il10	Il12a	Il1a	Il1b	Il1r1	Il2	Il6	Il6r	Irak1	Irak2	Irf1	Irf3
<b>D</b>	Jun	Kcnh8	Lta	Ly86	Mal	Map2k3	Map2k4	Map3k1	LOC1009107 71	Map4k4	Mapk8	Mapk8ip3
<b>E</b>	Mapk9	Myd88	Nfkbl	Nfkb2	Nfkbia	Nfkib	Nfkbil	Nfkkb	Nr2c2	Peli1	Pglyrp1	Ppara
<b>F</b>	Ptgs2	Rel	Rela	Ripk2	AABR0703148 0.1	Sarm1	Tbk1	Ticam2	Tlr1	Tlr2	Tlr3	Tlr4
<b>G</b>	Tlr5	Tlr6	Tlr7	Tlr9	LOC1036943 80	Tnfrsf1a	Tnip2	Tollip	Tradd	Traf6	Ube2n	LOC1009126 18
<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	SBR1118771	ENSRNOT00000077547.1	Btk	ENSRNOG0000052407	Bruton tyrosine kinase Source RGD Symbol Acc 1359683
A02	SBR1182801	ENSRNOT00000016613.4	Casp8	ENSRNOG0000012331	caspase 8 Source RGD Symbol Acc 620945
A03	SBR1165601	ENSRNOT00000009448.3	Ccl2	ENSRNOG0000007159	C-C motif chemokine ligand 2 Source RGD Symbol Acc 3645
A04	SBR1200939	ENSRNOT00000023977.6	Cd14	ENSRNOG0000017819	CD14 molecule Source RGD Symbol Acc 620588
A05	SBR1207112	ENSRNOT00000013768.5	Cd180	ENSRNOG0000010266	CD180 molecule Source RGD Symbol Acc 1308170
A06	SBR1120788	ENSRNOT00000089625.1	Cd80	ENSRNOG0000001527	Cd80 molecule Source RGD Symbol Acc 2314
A07	SBR1154524	ENSRNOT00000003129.6	Cd86	ENSRNOG0000038835	CDB6 molecule Source RGD Symbol Acc 628714
A08	SBR1114232	ENSRNOT00000083876.1	Cebpb	ENSRNOG0000057347	CCAAT/enhancer binding protein beta Source RGD Symbol Acc 2327
A09	SBR1132111	ENSRNOT00000030782.4	Chuk	ENSRNOG0000022485	conserved helix-loop-helix ubiquitous kinase Source RGD Symbol Acc 1306661
A10	SBR1113111	ENSRNOT00000078725.1	Clec4e	ENSRNOG0000061394	C-type lectin domain family 4, member E Source RGD Symbol Acc 1359298
A11	SBR1136894	ENSRNOT00000032333.3	Csf2	ENSRNOG0000026805	colony stimulating factor 2 Source RGD Symbol Acc 621065
A12	SBR1124341	ENSRNOT00000011509.3	Csf3	ENSRNOG0000008525	colony stimulating factor 3 Source RGD Symbol Acc 2426
B01	SBR1153857	ENSRNOT00000003075.7	Cxcl10	ENSRNOG0000022256	C-X-C motif chemokine ligand 10 Source RGD Symbol Acc 620209
B02	SBR1161371	ENSRNOT00000089185.1	Eif2ak2	ENSRNOG0000048315	eukaryotic translation initiation factor 2-alpha kinase 2 Source RGD Symbol Acc 3402
B03	SBR1202965	ENSRNOT00000075089.3	Fadd	ENSRNOG0000047035	Fas associated via death domain Source RGD Symbol Acc 628700
B04	SBR1110295	ENSRNOT00000010712.3	Fos	ENSRNOG0000008015	Fos proto-oncogene, AP-1 transcription factor subunit Source RGD Symbol Acc 2626
B05	SBR1122955	ENSRNOT00000047163.4	AABR07035218.1	ENSRNOG0000029813	
B06	SBR1204952	ENSRNOT00000079464.1	Hras	ENSRNOG0000016611	HRas proto-oncogene, GTPase Source RGD Symbol Acc 2827
B07	SBR1189015	ENSRNOT00000081924.1	Hspa1a	ENSRNOG0000050647	heat shock protein family A (Hsp70) member 1B Source RGD Symbol Acc 2840
B08	SBR1128872	ENSRNOT00000066589.2	Hspd1	ENSRNOG0000014525	heat shock protein family D member 1 Source RGD Symbol Acc 621314
B09	SBR1208793	ENSRNOT00000049705.1	Ifna5	ENSRNOG0000031046	interferon, alpha 5 Source RGD Symbol Acc 1359312
B10	SBR1104910	ENSRNOT00000008224.2	Ifnb1	ENSRNOG0000006268	interferon beta 1 Source RGD Symbol Acc 2865
B11	SBR1108917	ENSRNOT00000009919.2	Ifng	ENSRNOG0000007468	interferon gamma Source RGD Symbol Acc 2866
B12	SBR1133299	ENSRNOT00000025851.4	Ikbbp	ENSRNOG0000019073	inhibitor of nuclear factor kappa B kinase subunit beta Source RGD Symbol Acc 621375
C01	SBR1123238	ENSRNOT00000006246.5	Il10	ENSRNOG0000004647	interleukin 10 Source RGD Symbol Acc 2886
C02	SBR1107831	ENSRNOT00000012831.3	Il12a	ENSRNOG0000009468	interleukin 12A Source RGD Symbol Acc 620562
C03	SBR1106125	ENSRNOT00000006113.8	Il1a	ENSRNOG0000004575	interleukin 1 alpha Source RGD Symbol Acc 2890
C04	SBR1196387	ENSRNOT00000006308.4	Il1b	ENSRNOG0000004649	interleukin 1 beta Source RGD Symbol Acc 2891
C05	SBR1113457	ENSRNOT00000019673.4	Il1r1	ENSRNOG0000014504	interleukin 1 receptor type 1 Source RGD Symbol Acc 2892
C06	SBR1102170	ENSRNOT00000023327.2	Il2	ENSRNOG0000017348	interleukin 2 Source RGD Symbol Acc 620047
C07	SBR1156877	ENSRNOT00000013732.6	Il6	ENSRNOG0000010278	interleukin 6 Source RGD Symbol Acc 2901
C08	SBR1135762	ENSRNOT00000028234.7	Il6r	ENSRNOG0000020811	interleukin 6 receptor Source RGD Symbol Acc 2902
C09	SBR1200697	ENSRNOT00000092207.1	Irak1	ENSRNOG0000060869	interleukin-1 receptor-associated kinase 1 Source RGD Symbol Acc 1563841
C10	SBR1106113	ENSRNOT00000029819.4	Irak2	ENSRNOG0000021817	interleukin-1 receptor-associated kinase 2 Source RGD Symbol Acc 1309584
		ENSRNOT000000		ENSRNOG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1170657	010968.6	Irf1	000008144	interferon regulatory factor 1 Source RGD Symbol Acc 2920
C12	SBR1201960	ENSRNOT00000 027786.6	Irf3	ENSRNOG00 000043388	interferon regulatory factor 3 Source RGD Symbol Acc 1549774
D01	SBR1133226	ENSRNOT00000 011731.3	Jun	ENSRNOG00 000026293	Jun proto-oncogene, AP-1 transcription factor subunit Source RGD Symbol Acc 2943
D02	SBR1149643	ENSRNOT00000 087331.1	Kcnh8	ENSRNOG00 000058626	potassium voltage-gated channel subfamily H member 8 Source RGD Symbol Acc 2549
D03	SBR1181153	ENSRNOT00000 088936.1	Lta	ENSRNOG00 000000838	lymphotoxin alpha Source RGD Symbol Acc 3020
D04	SBR1197710	ENSRNOT00000 000149.6	Ly86	ENSRNOG00 000000137	lymphocyte antigen 86 Source RGD Symbol Acc 1309936
D05	SBR1185014	ENSRNOT00000 020870.2	Mal	ENSRNOG00 000015445	mal, T-cell differentiation protein Source RGD Symbol Acc 3037
D06	SBR1124771	ENSRNOT00000 073792.2	Map2k3	ENSRNOG00 000049132	mitogen activated protein kinase kinase 3 Source RGD Symbol Acc 1306620
D07	SBR1195777	ENSRNOT00000 005293.7	Map2k4	ENSRNOG00 000003834	mitogen activated protein kinase kinase 4 Source RGD Symbol Acc 1307040
D08	SBR1134748	ENSRNOT00000 017968.3	Map3k1	ENSRNOG00 000013177	mitogen-activated protein kinase kinase kinase 1 Source RGD Symbol Acc 620966
D09	SBR1093683	ENSRNOT00000 007654.5	LOC10091 0771	ENSRNOG00 000005724	mitogen-activated protein kinase kinase kinase 7-like Source RGD Symbol Acc 6496502
D10	SBR1167913	ENSRNOT00000 019180.6	Map4k4	ENSRNOG00 000014013	mitogen-activated protein kinase kinase kinase kinase 4 Source RGD Symbol Acc 1305322
D11	SBR1144517	ENSRNOT00000 065216.3	Mapk8	ENSRNOG00 000020155	mitogen-activated protein kinase 8 Source RGD Symbol Acc 621506
D12	SBR1213591	ENSRNOT00000 042066.3	Mapk8ip3	ENSRNOG00 000033568	mitogen-activated protein kinase 8 interacting protein 3 Source RGD Symbol Acc 1563691
E01	SBR1169613	ENSRNOT00000 004010.4	Mapk9	ENSRNOG00 000002823	mitogen-activated protein kinase 9 Source RGD Symbol Acc 628847
E02	SBR1185632	ENSRNOT00000 018341.5	Myd88	ENSRNOG00 000013634	MYD88, innate immune signal transduction adaptor Source RGD Symbol Acc 735043
E03	SBR1111134	ENSRNOT00000 036838.4	Nfkb1	ENSRNOG00 000023258	nuclear factor kappa B subunit 1 Source RGD Symbol Acc 70498
E04	SBR1164776	ENSRNOT00000 026235.3	Nfkb2	ENSRNOG00 000019311	nuclear factor kappa B subunit 2 Source RGD Symbol Acc 1307189
E05	SBR1120974	ENSRNOT00000 009894.6	Nfkbia	ENSRNOG00 000007390	NFKB inhibitor alpha Source RGD Symbol Acc 3171
E06	SBR1138816	ENSRNOT00000 027212.5	Nfkbib	ENSRNOG00 000020063	NFKB inhibitor beta Source RGD Symbol Acc 621887
E07	SBR1109671	ENSRNOT00000 001113.5	Nfkbil1	ENSRNOG00 000000839	NFKB inhibitor like 1 Source RGD Symbol Acc 1303310
E08	SBR1181553	ENSRNOT00000 011223.6	Nfrkb	ENSRNOG00 000008278	nuclear factor related to kappa B binding protein Source RGD Symbol Acc 1310558
E09	SBR1122598	ENSRNOT00000 014353.5	Nr2c2	ENSRNOG00 000010536	nuclear receptor subfamily 2, group C, member 2 Source RGD Symbol Acc 3201
E10	SBR1119891	ENSRNOT00000 009319.5	Peli1	ENSRNOG00 000006329	pellino E3 ubiquitin protein ligase 1 Source RGD Symbol Acc 1311199
E11	SBR1166038	ENSRNOT00000 018233.3	Pglyrp1	ENSRNOG00 000013395	peptidoglycan recognition protein 1 Source RGD Symbol Acc 621429
E12	SBR1163064	ENSRNOT00000 078928.1	Ppara	ENSRNOG00 000021463	peroxisome proliferator activated receptor alpha Source RGD Symbol Acc 3369
F01	SBR1122148	ENSRNOT00000 003567.4	Ptgs2	ENSRNOG00 000002525	prostaglandin-endoperoxide synthase 2 Source RGD Symbol Acc 620349
F02	SBR1170346	ENSRNOT00000 081077.1	Rel	ENSRNOG00 000054437	REL proto-oncogene, NF-kB subunit Source RGD Symbol Acc 1311231
F03	SBR1138204	ENSRNOT00000 045233.3	Rela	ENSRNOG00 000030888	RELA proto-oncogene, NF-kB subunit Source RGD Symbol Acc 727889
F04	SBR1122908	ENSRNOT00000 012963.5	Ripk2	ENSRNOG00 000009389	receptor-interacting serine-threonine kinase 2 Source RGD Symbol Acc 1309167
F05	SBR1112357	ENSRNOT00000 021061.6	AABR0703 1480.1	ENSRNOG00 000015645	
F06	SBR1133136	ENSRNOT00000 013639.5	Sarm1	ENSRNOG00 000010244	sterile alpha and TIR motif containing 1 Source RGD Symbol Acc 1310078
F07	SBR1106734	ENSRNOT00000 009260.5	Tbk1	ENSRNOG00 000005528	TANK-binding kinase 1 Source RGD Symbol Acc 1588588
F08	SBR1130378	ENSRNOT00000 059466.2	Ticam2	ENSRNOG00 000042070	toll-like receptor adaptor molecule 2 Source RGD Symbol Acc 1308258
F09	SBR1137224	ENSRNOT00000 059124.3	Tlr1	ENSRNOG00 000038722	toll-like receptor 1 Source MGI Symbol Acc MGI 1341295
F10	SBR1126190	ENSRNOT00000 013025.4	Tlr2	ENSRNOG00 000009822	toll-like receptor 2 Source RGD Symbol Acc 735138

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1119614	ENSRNOT00000035781.5	Tlr3	ENSRNOG00000021726	toll-like receptor 3 Source RGD Symbol Acc 735171
F12	SBR1180108	ENSRNOT00000014020.3	Tlr4	ENSRNOG0000010522	toll-like receptor 4 Source RGD Symbol Acc 3870
G01	SBR1140816	ENSRNOT00000004821.4	Tlr5	ENSRNOG0000022067	toll-like receptor 5 Source RGD Symbol Acc 631351
G02	SBR1133670	ENSRNOT00000002933.5	Tlr6	ENSRNOG0000002161	toll-like receptor 6 Source RGD Symbol Acc 1303030
G03	SBR1144425	ENSRNOT00000005620.6	Tlr7	ENSRNOG000004249	toll-like receptor 7 Source RGD Symbol Acc 1563357
G04	SBR1143539	ENSRNOT00000074194.1	Tlr9	ENSRNOG0000048161	toll-like receptor 9 Source RGD Symbol Acc 631352
G05	SBR1187845	ENSRNOT00000079677.1	LOC103694380	ENSRNOG0000055156	tumor necrosis factor-like Source RGD Symbol Acc 9404643
G06	SBR1130829	ENSRNOT00000048529.4	Tnfrsf1a	ENSRNOG0000031312	TNF receptor superfamily member 1A Source RGD Symbol Acc 621237
G07	SBR1122710	ENSRNOT00000018477.6	Tnip2	ENSRNOG0000013805	TNFAIP3 interacting protein 2 Source RGD Symbol Acc 1307717
G08	SBR1187324	ENSRNOT00000046344.3	Tollip	ENSRNOG0000019861	toll interacting protein Source RGD Symbol Acc 1304676
G09	SBR1105478	ENSRNOT00000020405.6	Tradd	ENSRNOG0000015179	TNFRSF1A-associated via death domain Source RGD Symbol Acc 621313
G10	SBR1200335	ENSRNOT00000006148.5	Traf6	ENSRNOG0000004639	TNF receptor associated factor 6 Source RGD Symbol Acc 1306853
G11	SBR1123959	ENSRNOT00000089874.1	Ube2n	ENSRNOG0000058053	ubiquitin-conjugating enzyme E2N Source RGD Symbol Acc 621096
G12	SBR1198574	ENSRNOT00000035048.4	LOC100912618	ENSRNOG0000025580	similar to ubiquitin-conjugating enzyme E2 variant 1 Source RGD Symbol Acc 1587144
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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