

# QuantiNova® LNA® PCR Focus Panels (Rotor-Gene® Format)

## Rat Transplant Rejection

Cat. no. 249950 SBRN-166ZR

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 (Rotor-Gene): QuantiNova LNA PCR Focus Panel

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc® (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance. 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>	Adam17	Bmp7	C3	C4a	Casp1	Casp3	Casp8	Ccl11	Ccl2	Ccl3	Ccl4	Ccl5
<b>B</b>	Tnfrsf3	Ccr3	Ccr5	Ccr7	Cd14	Cd28	Cd40	Cd40lg	Cd44	Cd80	Cd86	Cd8a
<b>C</b>	Col1a2	Csf2	Ccn2	Ctfa4	Cx3cr1	Cxcl10	Cxcl11	Cxcl9	Cxcr2	Cxcr3	Cxcr4	Fas
<b>D</b>	Faslg	Gzma	Gzmb	Icam1	Ifng	Il10	Il12a	Il12b	Il13	Il16	Il1b	Il2
<b>E</b>	Il2ra	Il3	Il4	Il5	Il6	Ilga2	Ilgae	Ilgad	Mmp1	Mmp1b	Mmp2	Mmp7
<b>F</b>	Mmp9	Msa4a1	Nfkb1	Nos2	Osm	Pf1	Psmb9	Smad3	Stat1	Stat6	Tap1	Tgfb1
<b>G</b>	Tgfb2	Tgfb3	Thbs1	Thbs2	Timp1	Tlr3	Tlr4	Tlr9	LOC1036943 80	Tnfrsf10	Vcam1	Vegfa
<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	SBR1157595	ENSRNOT00000081110.1	Adam17	ENSRNOG0000060694	ADAM metallopeptidase domain 17 Source RGD Symbol Acc 620404
A02	SBR1093977	ENSRNOT00000084990.1	Bmp7	ENSRNOG0000053384	bone morphogenetic protein 7 Source RGD Symbol Acc 620743
A03	SBR1177146	ENSRNOT00000073042.3	C3	ENSRNOG0000046834	complement C3 Source RGD Symbol Acc 2232
A04	SBR1182212	ENSRNOT00000072377.2	C4a	ENSRNOG0000047657	complement C4A Source RGD Symbol Acc 620005
A05	SBR1122190	ENSRNOT00000009993.6	Casp1	ENSRNOG0000007372	caspase 1 Source RGD Symbol Acc 2274
A06	SBR1123217	ENSRNOT00000014095.5	Casp3	ENSRNOG0000010475	caspase 3 Source RGD Symbol Acc 2275
A07	SBR1182801	ENSRNOT00000016613.4	Casp8	ENSRNOG0000012331	caspase 8 Source RGD Symbol Acc 620945
A08	SBR1164698	ENSRNOT00000009756.5	Ccl11	ENSRNOG0000007335	C-C motif chemokine ligand 11 Source RGD Symbol Acc 3644
A09	SBR1165601	ENSRNOT00000009448.3	Ccl2	ENSRNOG0000007159	C-C motif chemokine ligand 2 Source RGD Symbol Acc 3645
A10	SBR1146662	ENSRNOT00000015139.3	Ccl3	ENSRNOG0000011205	C-C motif chemokine ligand 3 Source RGD Symbol Acc 3647
A11	SBR1202700	ENSRNOT00000015199.3	Ccl4	ENSRNOG0000011406	C-C motif chemokine ligand 4 Source RGD Symbol Acc 620441
A12	SBR1094349	ENSRNOT00000014865.6	Ccl5	ENSRNOG0000010906	C-C motif chemokine ligand 5 Source RGD Symbol Acc 69069
B01	SBR1145288	ENSRNOT00000074583.1	Tnfaip3	ENSRNOG0000049517	TNF alpha induced protein 3 Source RGD Symbol Acc 1589275
B02	SBR1110610	ENSRNOT00000008809.4	Ccr3	ENSRNOG0000006736	C-C motif chemokine receptor 3 Source RGD Symbol Acc 620593
B03	SBR1129600	ENSRNOT00000082774.1	Ccr5	ENSRNOG0000049115	C-C motif chemokine receptor 5 Source RGD Symbol Acc 620596
B04	SBR1211640	ENSRNOT00000014163.7	Ccr7	ENSRNOG0000010665	C-C motif chemokine receptor 7 Source RGD Symbol Acc 735151
B05	SBR1200939	ENSRNOT00000023977.6	Cd14	ENSRNOG0000017819	CD14 molecule Source RGD Symbol Acc 620588
B06	SBR1154388	ENSRNOT00000013701.3	Cd28	ENSRNOG0000010283	Cd28 molecule Source RGD Symbol Acc 2299
B07	SBR1146998	ENSRNOT00000055148.4	Cd40	ENSRNOG0000018488	CD40 molecule Source RGD Symbol Acc 619830
B08	SBR1110042	ENSRNOT00000001162.4	Cd40lg	ENSRNOG0000000871	CD40 ligand Source RGD Symbol Acc 708418
B09	SBR1148883	ENSRNOT00000009000.7	Cd44	ENSRNOG0000006094	CD44 molecule (Indian blood group) Source RGD Symbol Acc 2307
B10	SBR1120788	ENSRNOT00000089625.1	Cd80	ENSRNOG0000001527	Cd80 molecule Source RGD Symbol Acc 2314
B11	SBR1154524	ENSRNOT00000003129.6	Cd86	ENSRNOG0000038835	CD86 molecule Source RGD Symbol Acc 628714
B12	SBR1107267	ENSRNOT00000009515.4	Cd8a	ENSRNOG0000007178	CD8a molecule Source RGD Symbol Acc 2316
C01	SBR1097834	ENSRNOT00000089292.1	Col1a2	ENSRNOG0000011292	collagen type I alpha 2 chain Source RGD Symbol Acc 621351
C02	SBR1136894	ENSRNOT00000032333.3	Csf2	ENSRNOG0000026805	colony stimulating factor 2 Source RGD Symbol Acc 621065
C03	SBR1133606	ENSRNOT00000089196.1	Ccn2	ENSRNOG0000015036	cellular communication network factor 2 Source RGD Symbol Acc 621392
C04	SBR1126546	ENSRNOT00000088183.1	Ctla4	ENSRNOG0000054129	cytotoxic T-lymphocyte-associated protein 4 Source RGD Symbol Acc 61975
C05	SBR1106590	ENSRNOT00000025019.2	Cx3cr1	ENSRNOG0000018509	C-X3-C motif chemokine receptor 1 Source RGD Symbol Acc 620137
C06	SBR1153857	ENSRNOT00000003075.7	Cxcl10	ENSRNOG0000022256	C-X-C motif chemokine ligand 10 Source RGD Symbol Acc 620209
C07	SBR1210202	ENSRNOT00000031667.4	Cxcl11	ENSRNOG0000022298	C-X-C motif chemokine ligand 11 Source RGD Symbol Acc 727827
C08	SBR1174753	ENSRNOT00000003082.7	Cxcl9	ENSRNOG0000022242	C-X-C motif chemokine ligand 9 Source RGD Symbol Acc 628798
C09	SBR1118473	ENSRNOT00000081711.1	Cxcr2	ENSRNOG0000014269	C-X-C motif chemokine receptor 2 Source RGD Symbol Acc 2906
C10	SBR1150044	ENSRNOT00000076210.1	Cxcr3	ENSRNOG0000003305	C-X-C motif chemokine receptor 3 Source RGD Symbol Acc 621528
		ENSRNOT000000		ENSRNOG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1129817	005143.6	Cxcr4	000003866	C-X-C motif chemokine receptor 4 Source RGD Symbol Acc 620465
C12	SBR1159525	ENSRNOT00000 025928.5	Fas	ENSRNOG00 000019142	Fas cell surface death receptor Source RGD Symbol Acc 619831
D01	SBR1097457	ENSRNOT00000 003998.2	Faslg	ENSRNOG00 000002978	Fas ligand Source RGD Symbol Acc 3880
D02	SBR1165549	ENSRNOT00000 014134.3	Gzma	ENSRNOG00 000010603	granzyme A Source RGD Symbol Acc 628640
D03	SBR1201047	ENSRNOT00000 041430.5	Gzmb	ENSRNOG00 000049976	Granzyme B-like 2 Source RGD Symbol Acc 2320097
D04	SBR1152534	ENSRNOT00000 028066.5	Icam1	ENSRNOG00 000020679	intercellular adhesion molecule 1 Source RGD Symbol Acc 2857
D05	SBR1108917	ENSRNOT00000 009919.2	Ifnlg	ENSRNOG00 000007468	interferon gamma Source RGD Symbol Acc 2866
D06	SBR1123238	ENSRNOT00000 006246.5	Il10	ENSRNOG00 000004647	interleukin 10 Source RGD Symbol Acc 2886
D07	SBR1107831	ENSRNOT00000 012831.3	Il12a	ENSRNOG00 000009468	interleukin 12A Source RGD Symbol Acc 620562
D08	SBR1133771	ENSRNOT00000 005898.6	Il12b	ENSRNOG00 000004380	interleukin 12B Source RGD Symbol Acc 628704
D09	SBR1178777	ENSRNOT00000 010121.2	Il13	ENSRNOG00 000007652	interleukin 13 Source RGD Symbol Acc 68949
D10	SBR1105763	ENSRNOT00000 016289.4	Il16	ENSRNOG00 000011680	interleukin 16 Source RGD Symbol Acc 1583872
D11	SBR1196387	ENSRNOT00000 006308.4	Il1b	ENSRNOG00 000004649	interleukin 1 beta Source RGD Symbol Acc 2891
D12	SBR1102170	ENSRNOT00000 023327.2	Il2	ENSRNOG00 000017348	interleukin 2 Source RGD Symbol Acc 620047
E01	SBR1164904	ENSRNOT00000 073144.2	Il2ra	ENSRNOG00 000047647	interleukin 2 receptor subunit alpha Source RGD Symbol Acc 2895
E02	SBR1198875	ENSRNOT00000 031762.1	Il3	ENSRNOG00 000026786	interleukin 3 Source RGD Symbol Acc 2897
E03	SBR1101847	ENSRNOT00000 010029.3	Il4	ENSRNOG00 000007624	interleukin 4 Source RGD Symbol Acc 2898
E04	SBR1179555	ENSRNOT00000 010729.4	Il5	ENSRNOG00 000008111	interleukin 5 Source RGD Symbol Acc 2900
E05	SBR1156877	ENSRNOT00000 013732.6	Il6	ENSRNOG00 000010278	interleukin 6 Source RGD Symbol Acc 2901
E06	SBR1203459	ENSRNOT00000 077401.1	Itga2	ENSRNOG00 000058111	integrin subunit alpha 2 Source RGD Symbol Acc 621632
E07	SBR1147827	ENSRNOT00000 077107.1	Itgae	ENSRNOG00 000046639	integrin subunit alpha E Source RGD Symbol Acc 621644
E08	SBR1114389	ENSRNOT00000 086003.1	Itgad	ENSRNOG00 000019728	integrin subunit alpha M Source RGD Symbol Acc 2926
E09	SBR1179779	ENSRNOT00000 012595.3	Mmp1	ENSRNOG00 000032353	matrix metalloproteinase 1 Source RGD Symbol Acc 1307917
E10	SBR1204890	ENSRNOT00000 011884.5	Mmp1b	ENSRNOG00 000008881	matrix metalloproteinase 1b (interstitial collagenase) Source RGD Symbol Acc 1306843
E11	SBR1120605	ENSRNOT00000 022679.6	Mmp2	ENSRNOG00 000016695	matrix metalloproteinase 2 Source RGD Symbol Acc 621316
E12	SBR1116320	ENSRNOT00000 014041.5	Mmp7	ENSRNOG00 000010507	matrix metalloproteinase 7 Source RGD Symbol Acc 3100
F01	SBR1206750	ENSRNOT00000 023965.3	Mmp9	ENSRNOG00 000017539	matrix metalloproteinase 9 Source RGD Symbol Acc 621320
F02	SBR1213943	ENSRNOT00000 028433.7	Ms4a1	ENSRNOG00 000020945	membrane spanning 4-domains A1 Source RGD Symbol Acc 1311999
F03	SBR1111134	ENSRNOT00000 036838.4	Nfkb1	ENSRNOG00 000023258	nuclear factor kappa B subunit 1 Source RGD Symbol Acc 70498
F04	SBR1197401	ENSRNOT00000 073138.2	Nos2	ENSRNOG00 000057443	similar to Nitric oxide synthase, inducible (NOS type II) (Inducible NO synthase) (Inducible NOS) (iNOS) Source RGD Symbol Acc 1598227
F05	SBR1214264	ENSRNOT00000 035591.3	Osm	ENSRNOG00 000024390	oncostatin M Source RGD Symbol Acc 1585012
F06	SBR1174578	ENSRNOT00000 000681.6	Prf1	ENSRNOG00 000000562	perforin 1 Source RGD Symbol Acc 708463
F07	SBR1136991	ENSRNOT00000 000532.7	Psmb9	ENSRNOG00 000000459	proteasome subunit beta 9 Source RGD Symbol Acc 3427
F08	SBR1096995	ENSRNOT00000 039730.4	Smad3	ENSRNOG00 000008620	SMAD family member 3 Source RGD Symbol Acc 3032
F09	SBR1199428	ENSRNOT00000 080522.1	Stat1	ENSRNOG00 000014079	signal transducer and activator of transcription 4 Source RGD Symbol Acc 1305747
F10	SBR1207811	ENSRNOT00000 085350.1	Stat6	ENSRNOG00 000025023	signal transducer and activator of transcription 6 Source RGD Symbol Acc 1309063

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1103040	ENSRNOT0000000529.6	Tap1	ENSRNOG0000000457	transporter 1, ATP binding cassette subfamily B member Source RGD Symbol Acc 3817
F12	SBR1143485	ENSRNOT00000028051.4	Tgfb1	ENSRNOG0000020652	transforming growth factor, beta 1 Source RGD Symbol Acc 69051
G01	SBR1164140	ENSRNOT00000087023.1	Tgfb2	ENSRNOG0000002418	transforming growth factor, beta 2 Source RGD Symbol Acc 70491
G02	SBR1115193	ENSRNOT00000013516.5	Tgfb3	ENSRNOG0000009867	transforming growth factor, beta 3 Source RGD Symbol Acc 3851
G03	SBR1160692	ENSRNOT00000083351.1	Thbs1	ENSRNOG0000045829	thrombospondin 1 Source RGD Symbol Acc 1588455
G04	SBR1212280	ENSRNOT00000014552.7	Thbs2	ENSRNOG0000010529	thrombospondin 2 Source RGD Symbol Acc 1310979
G05	SBR1154276	ENSRNOT00000013745.7	Timp1	ENSRNOG0000010208	TIMP metalloproteinase inhibitor 1 Source RGD Symbol Acc 621675
G06	SBR1119614	ENSRNOT00000035781.5	Tlr3	ENSRNOG0000021726	toll-like receptor 3 Source RGD Symbol Acc 735171
G07	SBR1180108	ENSRNOT00000014020.3	Tlr4	ENSRNOG0000010522	toll-like receptor 4 Source RGD Symbol Acc 3870
G08	SBR1143539	ENSRNOT00000074194.1	Tlr9	ENSRNOG0000048161	toll-like receptor 9 Source RGD Symbol Acc 631352
G09	SBR1187845	ENSRNOT00000079677.1	LOC103694380	ENSRNOG0000055156	tumor necrosis factor-like Source RGD Symbol Acc 9404643
G10	SBR1107258	ENSRNOT00000017758.5	Tnfsf10	ENSRNOG0000013269	TNF superfamily member 10 Source RGD Symbol Acc 628734
G11	SBR1189462	ENSRNOT00000077972.1	Vcam1	ENSRNOG0000014333	vascular cell adhesion molecule 1 Source RGD Symbol Acc 3952
G12	SBR1108862	ENSRNOT00000044163.4	Vegfa	ENSRNOG0000019598	vascular endothelial growth factor A Source RGD Symbol Acc 619991
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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