

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

## Rat Osmotic Stress

Cat. no. 249950 SBRN-151ZA

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>	Abcb1a	Adm	Agt	Agtr1a	Akt1	Aqp1	Aqp2	Aqp3	Aqp4	Aqp5	Aqp9	Aif4
<b>B</b>	Atp1a1	Atp1b1	Avp	Calr	Cd9	Cfr	Cryab	Ccn2	Dd183	Dusp1	Edn1	Egfr
<b>C</b>	Egr1	Egr3	Fos	Gadd45a	Gadd45b	Gadd45g	Guca2a	Hmx1	Hsp90aa1	Hspa1a	Hspa4	Hspa4l
<b>D</b>	Hspa5	Hspb1	Il1b	Ins2	Irgb1	Jun	Kcnj1	Lcn2	LOC1036943 81	Map2k2	Map3k1	Mapk1
<b>E</b>	Mapk8	Mlc1	Nfat5	Nfkbia	Nos3	Npr1	Odc1	Oxt	LOC1009107 32	Pax2	Pck2	Pdia4
<b>F</b>	Plat	Plk2	Plk2b	Sgk1	Slc12a2	Slc14a2	Slc2a1	Slc38a2	Slc9a1	Slc6a12	Slc6a6	Slc9a2
<b>G</b>	Slc9a3	Snai1	Src	Tat	Tgfa	LOC1036943 80	Tp53	Tpm4	Trpv4	Vegfa	Vim	Zfp361l
<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	SBR1116067	ENSRNOT00000082359.1	Abcb1a	ENSRNOG0000008012	ATP binding cassette subfamily B member 4 Source RGD Symbol Acc 620248
A02	SBR1135593	ENSRNOT00000036718.1	Adm	ENSRNOG00000027030	adrenomedullin Source RGD Symbol Acc 2047
A03	SBR1195605	ENSRNOT00000024917.4	Agf	ENSRNOG0000018445	angiotensinogen Source RGD Symbol Acc 2069
A04	SBR1140853	ENSRNOT00000038532.3	Agtr1a	ENSRNOG0000018346	angiotensin II receptor, type 1a Source RGD Symbol Acc 2070
A05	SBR1163078	ENSRNOT00000031164.3	Akt1	ENSRNOG0000028629	AKT serine/threonine kinase 1 Source RGD Symbol Acc 2081
A06	SBR1204719	ENSRNOT00000015692.2	Aqp1	ENSRNOG0000011648	aquaporin 1 Source RGD Symbol Acc 2141
A07	SBR1138109	ENSRNOT00000091717.1	Aqp2	ENSRNOG0000054378	aquaporin 2 Source RGD Symbol Acc 2142
A08	SBR1210543	ENSRNOT00000013803.3	Aqp3	ENSRNOG0000009797	aquaporin 3 Source RGD Symbol Acc 68428
A09	SBR1138496	ENSRNOT00000077606.1	Aqp4	ENSRNOG0000016043	aquaporin 4 Source RGD Symbol Acc 2143
A10	SBR1215293	ENSRNOT00000084911.1	Aqp5	ENSRNOG0000051970	aquaporin 5 Source RGD Symbol Acc 2144
A11	SBR1194754	ENSRNOT00000087980.1	Aqp9	ENSRNOG0000061883	aquaporin 9 Source RGD Symbol Acc 68433
A12	SBR1186510	ENSRNOT00000065304.4	Atf4	ENSRNOG0000017801	activating transcription factor 4 Source RGD Symbol Acc 621863
B01	SBR1186632	ENSRNOT00000040430.4	Atp1a1	ENSRNOG0000030019	ATPase Na <sup>+</sup> /K <sup>+</sup> transporting subunit alpha 1 Source RGD Symbol Acc 2167
B02	SBR1100425	ENSRNOT00000003932.7	Atp1b1	ENSRNOG0000002934	ATPase Na <sup>+</sup> /K <sup>+</sup> transporting subunit beta 1 Source RGD Symbol Acc 2170
B03	SBR1112106	ENSRNOT00000028833.5	Avp	ENSRNOG0000021229	arginine vasopressin Source RGD Symbol Acc 2184
B04	SBR1095160	ENSRNOT00000004091.6	Calr	ENSRNOG0000003029	calreticulin Source RGD Symbol Acc 620288
B05	SBR1160464	ENSRNOT00000026633.7	Cd9	ENSRNOG0000019556	CD9 molecule Source RGD Symbol Acc 2318
B06	SBR1157383	ENSRNOT00000085043.1	Cfr	ENSRNOG0000055103	cystic fibrosis transmembrane conductance regulator Source RGD Symbol Acc 2332
B07	SBR1151967	ENSRNOT00000059127.3	Cryab	ENSRNOG0000010524	crystallin, alpha B Source RGD Symbol Acc 2414
B08	SBR1133606	ENSRNOT00000089196.1	Ccn2	ENSRNOG0000015036	cellular communication network factor 2 Source RGD Symbol Acc 621392
B09	SBR1210119	ENSRNOT00000083472.1	Ddit3	ENSRNOG0000006789	DNA-damage inducible transcript 3 Source RGD Symbol Acc 62391
B10	SBR1102337	ENSRNOT00000005383.5	Dusp1	ENSRNOG0000003977	dual specificity phosphatase 1 Source RGD Symbol Acc 620897
B11	SBR1168689	ENSRNOT00000019361.2	Edn1	ENSRNOG0000014361	endothelin 1 Source RGD Symbol Acc 2532
B12	SBR1196436	ENSRNOT00000006087.2	Egfr	ENSRNOG0000004332	epidermal growth factor receptor Source RGD Symbol Acc 2543
C01	SBR1216566	ENSRNOT00000026303.4	Egr1	ENSRNOG0000019422	early growth response 1 Source RGD Symbol Acc 2544
C02	SBR1171630	ENSRNOT00000077072.2	Egr3	ENSRNOG0000017828	early growth response 3 Source RGD Symbol Acc 2545
C03	SBR1110295	ENSRNOT00000010712.3	Fos	ENSRNOG0000008015	Fos proto-oncogene, AP-1 transcription factor subunit Source RGD Symbol Acc 2626
C04	SBR1179414	ENSRNOT00000007698.6	Gadd45a	ENSRNOG0000005615	growth arrest and DNA-damage-inducible, alpha Source RGD Symbol Acc 2654
C05	SBR1101583	ENSRNOT00000026871.4	Gadd45b	ENSRNOG0000019822	growth arrest and DNA-damage-inducible, beta Source RGD Symbol Acc 1309080
C06	SBR1194608	ENSRNOT00000018252.7	Gadd45g	ENSRNOG0000013090	growth arrest and DNA-damage-inducible, gamma Source RGD Symbol Acc 1311796
C07	SBR1182497	ENSRNOT00000011867.4	Guca2a	ENSRNOG0000008849	guanylate cyclase activator 2A Source RGD Symbol Acc 2766
C08	SBR1146734	ENSRNOT00000019192.6	Hmox1	ENSRNOG0000014117	heme oxygenase 1 Source RGD Symbol Acc 2806
C09	SBR1113341	ENSRNOT00000086310.1	Hsp90aa1	ENSRNOG0000059714	heat shock protein 90 alpha family class A member 1 Source RGD Symbol Acc 631409
C10	SBR1189015	ENSRNOT00000081924.1	Hspa1a	ENSRNOG0000050647	heat shock protein family A (Hsp70) member 1B Source RGD Symbol Acc 2840
		ENSRNOT000000		ENSRNOG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1138708	023628.3	Hspa4	000016596	heat shock protein family A member 4 Source RGD Symbol Acc 628878
C12	SBR1146380	ENSRNOT00000015474.6	Hspa4l	ENSRNOG0000010819	heat shock protein family A (Hsp70) member 4 like Source RGD Symbol Acc 1306528
D01	SBR1166340	ENSRNOT00000025067.6	Hspa5	ENSRNOG0000018294	heat shock protein family A member 5 Source RGD Symbol Acc 2843
D02	SBR1195680	ENSRNOT00000031555.5	Hspb1	ENSRNOG0000023546	heat shock protein family B (small) member 1 Source RGD Symbol Acc 61306
D03	SBR1196387	ENSRNOT00000006308.4	Il1b	ENSRNOG0000004649	interleukin 1 beta Source RGD Symbol Acc 2891
D04	SBR1158339	ENSRNOT00000027656.3	Ins2	ENSRNOG0000020405	insulin 2 Source RGD Symbol Acc 2916
D05	SBR1105686	ENSRNOT00000014785.5	Itgb1	ENSRNOG0000010966	integrin subunit beta 1 Source RGD Symbol Acc 2927
D06	SBR1133226	ENSRNOT00000011731.3	Jun	ENSRNOG0000026293	Jun proto-oncogene, AP-1 transcription factor subunit Source RGD Symbol Acc 2943
D07	SBR1211231	ENSRNOT00000081614.1	Kcnj1	ENSRNOG0000059005	potassium voltage-gated channel subfamily J member 1 Source RGD Symbol Acc 2957
D08	SBR1205028	ENSRNOT00000018776.5	Lcn2	ENSRNOG0000013973	lipocalin 2 Source RGD Symbol Acc 69408
D09	SBR1203426	ENSRNOT00000089411.1	LOC103694381	ENSRNOG0000058566	lymphotoxin-beta Source RGD Symbol Acc 9083628
D10	SBR1144525	ENSRNOT00000027272.5	Map2k2	ENSRNOG0000020005	mitogen activated protein kinase kinase 2 Source RGD Symbol Acc 61888
D11	SBR1134748	ENSRNOT00000017968.3	Map3k1	ENSRNOG0000013177	mitogen-activated protein kinase kinase kinase 1 Source RGD Symbol Acc 620966
D12	SBR1202944	ENSRNOT00000025233.7	Mapk1	ENSRNOG0000001849	mitogen activated protein kinase 1 Source RGD Symbol Acc 70500
E01	SBR1144517	ENSRNOT00000065216.3	Mapk8	ENSRNOG0000020155	mitogen-activated protein kinase 8 Source RGD Symbol Acc 621506
E02	SBR1206514	ENSRNOT00000055879.3	Mlc1	ENSRNOG0000032871	megalencephalic leukoencephalopathy with subcortical cysts 1 Source RGD Symbol Acc 1308552
E03	SBR1141053	ENSRNOT00000017005.5	Nfat5	ENSRNOG0000011879	nuclear factor of activated T-cells 5 Source RGD Symbol Acc 1309142
E04	SBR1120974	ENSRNOT00000009894.6	Nfkbia	ENSRNOG0000007390	NFKB inhibitor alpha Source RGD Symbol Acc 3171
E05	SBR1203756	ENSRNOT00000013058.4	Nos3	ENSRNOG0000009348	nitric oxide synthase 3 Source RGD Symbol Acc 3186
E06	SBR1175096	ENSRNOT00000020307.3	Npr1	ENSRNOG0000014684	natriuretic peptide receptor 1 Source RGD Symbol Acc 3195
E07	SBR1207804	ENSRNOT00000079185.1	Odc1	ENSRNOG0000005424	ornithine decarboxylase 1 Source RGD Symbol Acc 3227
E08	SBR1187622	ENSRNOT00000028829.5	Oxt	ENSRNOG0000021225	oxytocin/neurophysin 1 prepropeptide Source RGD Symbol Acc 3238
E09	SBR1197439	ENSRNOT00000071060.2	LOC100910732	ENSRNOG0000048597	p21 (RAC1) activated kinase 2 Source RGD Symbol Acc 61953
E10	SBR1111778	ENSRNOT00000050076.4	Pax2	ENSRNOG0000014253	paired box 2 Source RGD Symbol Acc 1305568
E11	SBR1137508	ENSRNOT00000025260.7	Pck2	ENSRNOG0000018536	phosphoenolpyruvate carboxykinase 2 (mitochondrial) Source MGI Symbol Acc MGI 1860456
E12	SBR1135596	ENSRNOT00000008728.5	Pdia4	ENSRNOG0000006228	protein disulfide isomerase family A, member 4 Source RGD Symbol Acc 619835
F01	SBR1162717	ENSRNOT00000025763.6	Plat	ENSRNOG0000019018	plasminogen activator, tissue type Source RGD Symbol Acc 3342
F02	SBR1118067	ENSRNOT00000079599.1	Plk2	ENSRNOG0000007916	protein tyrosine kinase 2 Source RGD Symbol Acc 3443
F03	SBR1118653	ENSRNOT00000030007.3	Plk2b	ENSRNOG0000027839	protein tyrosine kinase 2 beta Source RGD Symbol Acc 628758
F04	SBR1176764	ENSRNOT00000016121.5	Sgk1	ENSRNOG0000011815	serum/glucocorticoid regulated kinase 1 Source RGD Symbol Acc 3668
F05	SBR1126909	ENSRNOT00000021921.4	Slc12a2	ENSRNOG0000015971	solute carrier family 12 member 2 Source RGD Symbol Acc 620809
F06	SBR1161863	ENSRNOT00000078519.1	Slc14a2	ENSRNOG0000056021	solute carrier family 14 member 2 Source RGD Symbol Acc 3689
F07	SBR1109042	ENSRNOT00000064452.2	Slc2a1	ENSRNOG0000007284	solute carrier family 2 member 1 Source RGD Symbol Acc 3704
F08	SBR1143572	ENSRNOT00000039002.3	Slc38a2	ENSRNOG0000006305	solute carrier family 38, member 2 Source RGD Symbol Acc 69420
F09	SBR1196695	ENSRNOT00000011049.4	Slc9a1	ENSRNOG0000007982	solute carrier family 9 member A1 Source RGD Symbol Acc 3718
F10	SBR1181000	ENSRNOT00000018821.4	Slc6a12	ENSRNOG0000013547	solute carrier family 6 member 12 Source RGD Symbol Acc 620255

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1142717	ENSRNOT00000012875.6	Slc6a6	ENSRNOG0000009019	solute carrier family 6 member 6 Source RGD Symbol Acc 61912
F12	SBR1212274	ENSRNOT00000021270.6	Slc9a2	ENSRNOG0000015567	solute carrier family 9 member A2 Source RGD Symbol Acc 3719
G01	SBR1168632	ENSRNOT00000020711.3	Slc9a3	ENSRNOG0000015159	solute carrier family 9 member A3 Source RGD Symbol Acc 3720
G02	SBR1162553	ENSRNOT00000077581.1	Snai1	ENSRNOG0000009594	snail family transcriptional repressor 1 Source RGD Symbol Acc 620758
G03	SBR1192294	ENSRNOT00000012739.4	Src	ENSRNOG0000009495	SRC proto-oncogene, non-receptor tyrosine kinase Source RGD Symbol Acc 620795
G04	SBR1201614	ENSRNOT00000022721.4	Tat	ENSRNOG0000016348	tyrosine aminotransferase Source RGD Symbol Acc 3820
G05	SBR1118717	ENSRNOT00000057441.4	Tgfa	ENSRNOG0000016182	transforming growth factor alpha Source RGD Symbol Acc 3849
G06	SBR1187845	ENSRNOT00000079677.1	LOC103694380	ENSRNOG0000055156	tumor necrosis factor-like Source RGD Symbol Acc 9404643
G07	SBR1172374	ENSRNOT00000046490.3	Tp53	ENSRNOG0000010756	tumor protein p53 Source RGD Symbol Acc 3889
G08	SBR1178946	ENSRNOT00000021073.5	Tpm4	ENSRNOG0000015496	tropomyosin 4 Source RGD Symbol Acc 3899
G09	SBR1112211	ENSRNOT00000001586.2	Trpv4	ENSRNOG0000001195	transient receptor potential cation channel, subfamily V, member 4 Source RGD Symbol Acc 69337
G10	SBR1108862	ENSRNOT00000044163.4	Vegfa	ENSRNOG0000019598	vascular endothelial growth factor A Source RGD Symbol Acc 619991
G11	SBR1197523	ENSRNOT00000024430.5	Vim	ENSRNOG0000018087	vimentin Source RGD Symbol Acc 621646
G12	SBR1100561	ENSRNOT00000083677.1	Zfp361l	ENSRNOG0000058646	zinc finger protein 36, C3H type-like 1 Source RGD Symbol Acc 62009
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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