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

Rat Mitochondrial Energy Metabolism

Cat. no. 249950 SBRN-008ZA

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	Atp12a	Atp4a	Atp4b	Atp5f1a	Atp5f1b	Taf3	Atp5f1d	LOC100911417	Atp5mc2	Atp5mc3	Atp5pd	Atp5me
B	Atp5pf	Atp5mg	Atp5po	Atp6ap1	Tctn2	Atp6v0d2	Atp6v1c2	Atp6v1e2	Atp6v1g3	Bcs1l	Cox15	Cox17
C	Cox4i1	Cox4i2	Cox5a	Cox5b	Cox6a1	Cox6a2	Cox6c	Cox7a2	Cox7a2l	Cox7b	Cox8a	Cox8c
D	Cyc1	Lhpp	LOC108348144	Ndufa10	Ndufa11	Ndufa2	Ndufa5	Ndufa6	Ndufa7	Ndufa8	Ndufa9	Ndufab1
E	Ndufb2	Ndufb3	Ndufb5	Ndufb6	Ndufb7	Ndufb8	Ndufb9	Ndufc2	Ndufs1	Ndufs2	Ndufs3	Ndufs4
F	Ndufs6	Ndufs7	Ndufs8	Ndufv1	Ndufv2	Nnt	Ppa1	Sdha	Sdhb	Sdhc	Sdhd	Slc25a10
G	Slc25a15	Slc25a20	Surf4	Ucp1	Ucp2	Ucp3	Uqcrb	Uqcrc1	Uqcrc2	Uqcrfs1	Uqcrh	Uqcrq
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	SBR1215846	ENSRNOT00000091753.1	Atp12a	ENSRNOG00000020685	ATPase H+/K+ transporting non-gastric alpha2 subunit Source RGD Symbol Acc 620569
A02	SBR1137827	ENSRNOT00000028508.7	Atp4a	ENSRNOG00000020985	ATPase H+/K+ transporting subunit alpha Source RGD Symbol Acc 2177
A03	SBR1177163	ENSRNOT00000025958.2	Atp4b	ENSRNOG00000018543	ATPase H+/K+ transporting subunit beta Source RGD Symbol Acc 2178
A04	SBR1114507	ENSRNOT00000022892.5	Atp5f1a	ENSRNOG00000017032	ATP synthase F1 subunit alpha Source RGD Symbol Acc 619993
A05	SBR1152830	ENSRNOT00000003965.4	Atp5f1b	ENSRNOG00000002840	ATP synthase F1 subunit beta Source RGD Symbol Acc 621368
A06	SBR1162009	ENSRNOT00000064802.3	Taf3	ENSRNOG00000019223	ATP synthase F1 subunit gamma Source RGD Symbol Acc 620011
A07	SBR1177152	ENSRNOT00000020670.4	Atp5f1d	ENSRNOG00000014625	ATP synthase F1 subunit delta Source RGD Symbol Acc 621372
A08	SBR1122926	ENSRNOT00000075982.1	LOC100911417	ENSRNOG00000046299	ATP synthase peripheral stalk-membrane subunit b Source RGD Symbol Acc 620041
A09	SBR1195965	ENSRNOT00000090051.1	Atp5mc2	ENSRNOG00000015320	ATP synthase membrane subunit c locus 2 Source RGD Symbol Acc 620051
A10	SBR1189927	ENSRNOT00000058234.3	Atp5mc3	ENSRNOG00000001596	ATP synthase membrane subunit c locus 3 Source RGD Symbol Acc 620052
A11	SBR1104356	ENSRNOT00000004836.6	Atp5pd	ENSRNOG00000003626	ATP synthase peripheral stalk subunit d Source RGD Symbol Acc 620083
A12	SBR1101209	ENSRNOT00000000072.2	Atp5me	ENSRNOG00000000064	ATP synthase membrane subunit e Source RGD Symbol Acc 621377
B01	SBR1117217	ENSRNOT00000002116.4	Atp5pf	ENSRNOG00000001551	ATP synthase peripheral stalk subunit F6 Source RGD Symbol Acc 621376
B02	SBR1211450	ENSRNOT00000050878.4	Atp5mg	ENSRNOG00000028884	ATP synthase membrane subunit g Source RGD Symbol Acc 1303259
B03	SBR1111128	ENSRNOT00000002732.6	Atp5po	ENSRNOG00000001991	ATP synthase peripheral stalk subunit OSCP Source RGD Symbol Acc 621379
B04	SBR1114576	ENSRNOT00000081914.1	Atp6ap1	ENSRNOG00000054352	ATPase H+ transporting accessory protein 1 Source RGD Symbol Acc 620423
B05	SBR1126651	ENSRNOT00000087698.1	Tctn2	ENSRNOG00000052704	ATPase H+ transporting V0 subunit a2 Source RGD Symbol Acc 621006
B06	SBR1118440	ENSRNOT00000009334.6	Atp6v0d2	ENSRNOG00000006926	ATPase H+ transporting V0 subunit D2 Source RGD Symbol Acc 1306900
B07	SBR1102552	ENSRNOT00000071977.2	Atp6v1c2	ENSRNOG00000050553	ATPase H+ transporting V1 subunit C2 Source RGD Symbol Acc 1359430
B08	SBR1134985	ENSRNOT00000020845.5	Atp6v1e2	ENSRNOG00000015566	ATPase H+ transporting V1 subunit E2 Source RGD Symbol Acc 1311680
B09	SBR1190656	ENSRNOT00000029679.4	Atp6v1g3	ENSRNOG00000022480	ATPase H+ transporting V1 subunit G3 Source RGD Symbol Acc 1304635
B10	SBR1199123	ENSRNOT00000022632.5	Bcs1l	ENSRNOG00000016754	BCS1 homolog, ubiquinol-cytochrome c reductase complex chaperone Source RGD Symbol Acc 1359658
B11	SBR1142049	ENSRNOT00000023215.5	Cox15	ENSRNOG00000017230	cytochrome c oxidase assembly homolog COX15 Source RGD Symbol Acc 1312043
B12	SBR1162412	ENSRNOT00000059541.2	Cox17	ENSRNOG00000038951	cytochrome c oxidase copper chaperone COX17 Source RGD Symbol Acc 620548
C01	SBR1154459	ENSRNOT00000024033.5	Cox4i1	ENSRNOG00000017817	cytochrome c oxidase subunit 4i1 Source RGD Symbol Acc 68374
C02	SBR1215873	ENSRNOT00000010418.5	Cox4i2	ENSRNOG00000007827	cytochrome c oxidase subunit 4i2 Source RGD Symbol Acc 69422
C03	SBR1157317	ENSRNOT00000025525.4	Cox5a	ENSRNOG00000018816	cytochrome c oxidase subunit 5A Source RGD Symbol Acc 620607
C04	SBR1204340	ENSRNOT00000022487.5	Cox5b	ENSRNOG00000016660	cytochrome c oxidase subunit 5B Source RGD Symbol Acc 620608
C05	SBR1135744	ENSRNOT00000001545.4	Cox6a1	ENSRNOG00000001170	cytochrome c oxidase subunit 6A1 Source RGD Symbol Acc 2384
C06	SBR1135732	ENSRNOT00000026908.4	Cox6a2	ENSRNOG00000019851	cytochrome c oxidase subunit 6A2 Source RGD Symbol Acc 2385
C07	SBR1166482	ENSRNOT00000014407.5	Cox6c	ENSRNOG00000010807	cytochrome c oxidase subunit 6C Source RGD Symbol Acc 620616
C08	SBR1094140	ENSRNOT00000066084.1	Cox7a2	ENSRNOG00000042903	cytochrome c oxidase subunit VIIa polypeptide 2-like 2 Source RGD Symbol Acc 1589992
C09	SBR1114931	ENSRNOT00000065464.2	Cox7a2l	ENSRNOG00000004526	cytochrome c oxidase subunit 7A2 like Source RGD Symbol Acc 1306111
C10	SBR1195279	ENSRNOT00000090007.1	Cox7b	ENSRNOG00000054689	cytochrome c oxidase subunit 7B Source RGD Symbol Acc 727789
		ENSRNOT00000		ENSRNOG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1183683	028754.5	Cox8a	000021177	cytochrome c oxidase subunit 8A Source RGD Symbol Acc 620638
C12	SBR1144386	ENSRNOT00000 052296.1	Cox8c	ENSRNOG00 000031106	cytochrome c oxidase subunit 8C Source RGD Symbol Acc 727840
D01	SBR1123700	ENSRNOT00000 017067.7	Cyc1	ENSRNOG00 000012457	cytochrome c-1 Source RGD Symbol Acc 1306597
D02	SBR1199163	ENSRNOT00000 022971.3	Lhpp	ENSRNOG00 000017097	phospholysine phosphohistidine inorganic pyrophosphate phosphatase Source RGD Symbol Acc 1359187
D03	SBR1172033	ENSRNOT00000 081761.2	LOC10834 8144	ENSRNOG00 000052226	NADH dehydrogenase ubiquinone 1 alpha subcomplex subunit 1 Source RGD Symbol Acc 11430296
D04	SBR1176354	ENSRNOT00000 022089.6	Ndufa10	ENSRNOG00 000016470	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex 10-like 1 Source RGD Symbol Acc 1589745
D05	SBR1201131	ENSRNOT00000 070862.2	Ndufa11	ENSRNOG00 000048320	NADH ubiquinone oxidoreductase subunit A11 Source RGD Symbol Acc 1303292
D06	SBR1214488	ENSRNOT00000 023811.5	Ndufa2	ENSRNOG00 000017571	NADH ubiquinone oxidoreductase subunit A2 Source RGD Symbol Acc 1309997
D07	SBR1120845	ENSRNOT00000 008325.2	Ndufa5	ENSRNOG00 000005698	NADH ubiquinone oxidoreductase subunit A5 Source RGD Symbol Acc 3155
D08	SBR1211700	ENSRNOT00000 011484.4	Ndufa6	ENSRNOG00 000008569	NADH ubiquinone oxidoreductase subunit A6 Source RGD Symbol Acc 1309818
D09	SBR1094901	ENSRNOT00000 009425.7	Ndufa7	ENSRNOG00 000006939	NADH ubiquinone oxidoreductase subunit A7 Source RGD Symbol Acc 1304597
D10	SBR1159861	ENSRNOT00000 044885.3	Ndufa8	ENSRNOG00 000005668	NADH ubiquinone oxidoreductase subunit A8 Source RGD Symbol Acc 1306283
D11	SBR1213091	ENSRNOT00000 089193.1	Ndufa9	ENSRNOG00 000061684	NADH ubiquinone oxidoreductase subunit A9 Source RGD Symbol Acc 1307307
D12	SBR1195644	ENSRNOT00000 024471.7	Ndufab1	ENSRNOG00 000018129	NADH ubiquinone oxidoreductase subunit AB1 Source RGD Symbol Acc 1305619
E01	SBR1100748	ENSRNOT00000 030892.4	Ndufb2	ENSRNOG00 000026616	NADH ubiquinone oxidoreductase subunit B2 Source RGD Symbol Acc 1308130
E02	SBR1192169	ENSRNOT00000 016060.5	Ndufb3	ENSRNOG00 000011825	NADH ubiquinone oxidoreductase subunit B3 Source RGD Symbol Acc 1310737
E03	SBR1188695	ENSRNOT00000 016051.5	Ndufb5	ENSRNOG00 000011949	NADH ubiquinone oxidoreductase subunit B5 Source RGD Symbol Acc 1305909
E04	SBR1157353	ENSRNOT00000 029712.4	Ndufb6	ENSRNOG00 000024539	NADH ubiquinone oxidoreductase subunit B6 Source RGD Symbol Acc 1311354
E05	SBR1189018	ENSRNOT00000 035890.5	Ndufb7	ENSRNOG00 000028717	NADH ubiquinone oxidoreductase subunit B7 Source RGD Symbol Acc 1308550
E06	SBR1128458	ENSRNOT00000 019039.7	Ndufb8	ENSRNOG00 000014078	NADH ubiquinone oxidoreductase subunit B8 Source RGD Symbol Acc 1309129
E07	SBR1136979	ENSRNOT00000 012616.7	Ndufb9	ENSRNOG00 000009364	NADH ubiquinone oxidoreductase subunit B9 Source RGD Symbol Acc 1307114
E08	SBR1119584	ENSRNOT00000 016509.6	Ndufc2	ENSRNOG00 000012383	NADH ubiquinone oxidoreductase subunit C2 Source RGD Symbol Acc 1307511
E09	SBR1167901	ENSRNOT00000 015852.5	Ndufs1	ENSRNOG00 000011849	NADH ubiquinone oxidoreductase core subunit S1 Source RGD Symbol Acc 1359670
E10	SBR1096290	ENSRNOT00000 058423.4	Ndufs2	ENSRNOG00 000038372	NADH ubiquinone oxidoreductase core subunit S2 Source RGD Symbol Acc 1307109
E11	SBR1185791	ENSRNOT00000 012425.6	Ndufs3	ENSRNOG00 000009155	NADH ubiquinone oxidoreductase core subunit S3 Source RGD Symbol Acc 1309406
E12	SBR1108236	ENSRNOT00000 015217.5	Ndufs4	ENSRNOG00 000011383	NADH ubiquinone oxidoreductase subunit S4 Source RGD Symbol Acc 1594380
F01	SBR1161069	ENSRNOT00000 024327.4	Ndufs6	ENSRNOG00 000018068	NADH ubiquinone oxidoreductase subunit S6 Source RGD Symbol Acc 3156
F02	SBR1156911	ENSRNOT00000 039728.5	Ndufs7	ENSRNOG00 000024568	NADH ubiquinone oxidoreductase core subunit S7 Source RGD Symbol Acc 1310013
F03	SBR1204707	ENSRNOT00000 023526.5	Ndufs8	ENSRNOG00 000017446	NADH ubiquinone oxidoreductase core subunit S8 Source RGD Symbol Acc 1309436
F04	SBR1171370	ENSRNOT00000 024517.6	Ndufv1	ENSRNOG00 000018117	NADH ubiquinone oxidoreductase core subunit V1 Source RGD Symbol Acc 1359247
F05	SBR1120426	ENSRNOT00000 016965.5	Ndufv2	ENSRNOG00 000042503	NADH ubiquinone oxidoreductase core subunit V2 Source RGD Symbol Acc 621733
F06	SBR1211137	ENSRNOT00000 033627.3	Nnt	ENSRNOG00 000026842	nicotinamide nucleotide transhydrogenase Source RGD Symbol Acc 1587346
F07	SBR1181965	ENSRNOT00000 000674.6	Ppa1	ENSRNOG00 000000557	pyrophosphatase (inorganic) 1 Source RGD Symbol Acc 1589773
F08	SBR1203537	ENSRNOT00000 018336.4	Sdha	ENSRNOG00 000013331	succinate dehydrogenase complex flavoprotein subunit A Source RGD Symbol Acc 621557
F09	SBR1209354	ENSRNOT00000 010593.7	Sdhb	ENSRNOG00 000007967	succinate dehydrogenase complex iron sulfur subunit B Source RGD Symbol Acc 1308598
F10	SBR1116435	ENSRNOT00000 004228.5	Sdhc	ENSRNOG00 000003163	succinate dehydrogenase complex subunit C Source RGD Symbol Acc 1359454

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1130802	ENSRNOT00000059169.2	Sdhd	ENSRNOG00000022980	succinate dehydrogenase complex subunit D Source RGD Symbol Acc 735231
F12	SBR1203003	ENSRNOT00000054963.2	Slc25a10	ENSRNOG00000036693	solute carrier family 25 member 10 Source RGD Symbol Acc 621430
G01	SBR1116441	ENSRNOT00000078971.1	Slc25a15	ENSRNOG00000011881	solute carrier family 25 member 15 Source RGD Symbol Acc 1311488
G02	SBR1142250	ENSRNOT00000027520.4	Slc25a20	ENSRNOG00000020288	solute carrier family 25 member 20 Source RGD Symbol Acc 621443
G03	SBR1138869	ENSRNOT00000078429.1	Surf4	ENSRNOG00000060005	surfeit 4 Source RGD Symbol Acc 1561980
G04	SBR1129529	ENSRNOT00000004900.4	Ucp1	ENSRNOG00000003580	uncoupling protein 1 Source RGD Symbol Acc 3931
G05	SBR1104067	ENSRNOT00000024156.5	Ucp2	ENSRNOG00000017854	uncoupling protein 2 Source RGD Symbol Acc 3932
G06	SBR1125659	ENSRNOT00000024005.5	Ucp3	ENSRNOG00000017716	uncoupling protein 3 Source RGD Symbol Acc 3933
G07	SBR1172241	ENSRNOT00000037030.5	Uqcrb	ENSRNOG00000024967	ubiquinol-cytochrome c reductase binding protein Source RGD Symbol Acc 1311971
G08	SBR1141238	ENSRNOT00000042114.4	Uqcrc1	ENSRNOG00000032134	ubiquinol-cytochrome c reductase core protein 1 Source RGD Symbol Acc 1303314
G09	SBR1142799	ENSRNOT00000021514.5	Uqcrc2	ENSRNOG00000036742	ubiquinol cytochrome c reductase core protein 2 Source RGD Symbol Acc 1359150
G10	SBR1130994	ENSRNOT00000024609.6	Uqcrfs1	ENSRNOG00000018281	ubiquinol-cytochrome c reductase, Rieske iron-sulfur polypeptide 1 Source RGD Symbol Acc 628838
G11	SBR1106719	ENSRNOT00000016751.6	Uqcrh	ENSRNOG00000012550	ubiquinol-cytochrome c reductase hinge protein Source RGD Symbol Acc 1305987
G12	SBR1173736	ENSRNOT00000073964.2	Uqcrq	ENSRNOG00000048174	ubiquinol-cytochrome c reductase, complex III subunit VII Source RGD Symbol Acc 1562350
H01	SBR1220567	ENSRNOT00000042459.4	Actb	ENSRNOG00000034254	actin, beta Source RGD Symbol Acc 628837
H02	SBR1220568	ENSRNOT00000023017.5	B2m	ENSRNOG00000017123	beta-2 microglobulin Source RGD Symbol Acc 2189
H03	SBR1225377	ENSRNOT00000065935.3	Hprt1	ENSRNOG00000048561	hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826
H04	SBR1122313	ENSRNOT00000017468.2	Ldha	ENSRNOG00000013009	lactate dehydrogenase A Source RGD Symbol Acc 2996
H05	SBR1220572	ENSRNOT00000018820.5	Rplp1	ENSRNOG00000013874	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 µl reactions: 20 µl 8x gDNA Removal Mix, 10 µl Reverse Transcription Enzyme, 40 µl Reverse Transcription Mix (containing RT primers), 20 µl Internal Control RNA, 1.9 ml RNase-Free Water	205410
QuantiNova SYBR Green RT-PCR Kit (100)*	For 100 x 20 µl reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 µl QuantiNova SYBR Green RT Mix, 20 µl Internal Control RNA, 500 µl Yellow Template Dilution Buffer, 250 µl ROX Reference Dye, 1.9 µl RNase-Free Water	208152
QuantiNova SYBR Green PCR Kit (100)*	For 100 x 20 µl reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 µl QuantiNova Yellow Template Dilution Buffer, 250 µl 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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