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

Human Mitochondrial Energy Metabolism

Cat. no. 249950 SBHS-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	ATP5F1C	ATP5PB	ATP5MC1	ATP5MC2	ATP5MC3	ATP5PD	ATP5ME
B	ATP5PF	ATP5MF	ATP5MG	ATP5PO	ATP6V0A2	ATP6V0D2	ATP6V1C2	ATP6V1E2	ATP6V1G3	BCS1L	COX4I1	COX4I2
C	COX5A	COX5B	COX6A1	COX6A2	COX6B1	COX6B2	COX6C	COX7A2	COX7A2L	COX7B	COX8A	COX8C
D	CYC1	LHPP	NDUFA1	NDUFA10	NDUFA11	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8
E	NDUFAB1	NDUFB10	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFC1	NDUFC2
F	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3	OXA1L
G	PPA1	PPA2	SDHA	SDHB	SDHC	SDHD	UQCR11	UQCRC1	UQCRC2	UQCRFS1	UQCRH	UQCRQ
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	QIC	QIC	QIC	PPC	PPC	PPC

Gene table: QuantiNova LNA PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	SBH1219764	ENST00000381946.4	ATP12A	ENSG00000075673	ATPase H+/K+ transporting non-gastric alpha2 subunit Source HGNC Symbol Acc HGNC 13816
A02	SBH0019509	ENST00000262623.3	ATP4A	ENSG00000105675	ATPase H+/K+ transporting subunit alpha Source HGNC Symbol Acc HGNC 819
A03	SBH0660237	ENST00000335288.4	ATP4B	ENSG00000186009	ATPase H+/K+ transporting subunit beta Source HGNC Symbol Acc HGNC 820
A04	SBH1219765	ENST00000590665.5	ATP5F1A	ENSG00000152234	ATP synthase F1 subunit alpha Source HGNC Symbol Acc HGNC 823
A05	SBH0601132	ENST00000547250.5	ATP5F1B	ENSG00000110955	ATP synthase F1 subunit beta Source HGNC Symbol Acc HGNC 830
A06	SBH0249503	ENST00000335698.4	ATP5F1C	ENSG00000165629	ATP synthase F1 subunit gamma Source HGNC Symbol Acc HGNC 833
A07	SBH1219766	ENST00000369722.8	ATP5PB	ENSG00000116459	ATP synthase peripheral stalk-membrane subunit b Source HGNC Symbol Acc HGNC 840
A08	SBH1219767	ENST00000393366.7	ATP5MC1	ENSG00000159199	ATP synthase membrane subunit c locus 1 Source HGNC Symbol Acc HGNC 841
A09	SBH0594215	ENST00000338662.5	ATP5MC2	ENSG00000135390	ATP synthase membrane subunit c locus 2 Source HGNC Symbol Acc HGNC 842
A10	SBH1219768	ENST00000284727.8	ATP5MC3	ENSG00000154518	ATP synthase membrane subunit c locus 3 Source HGNC Symbol Acc HGNC 843
A11	SBH1219769	ENST00000301587.9	ATP5PD	ENSG00000167863	ATP synthase peripheral stalk subunit d Source HGNC Symbol Acc HGNC 845
A12	SBH1219770	ENST00000304312.5	ATP5ME	ENSG00000169020	ATP synthase membrane subunit e Source HGNC Symbol Acc HGNC 846
B01	SBH0564083	ENST00000400093.3	ATP5PF	ENSG00000154723	ATP synthase peripheral stalk subunit F6 Source HGNC Symbol Acc HGNC 847
B02	SBH0575393	ENST00000292475.7	ATP5MF	ENSG00000241468	ATP synthase membrane subunit f Source HGNC Symbol Acc HGNC 848
B03	SBH1219771	ENST00000300688.8	ATP5MG	ENSG00000167283	ATP synthase membrane subunit g Source HGNC Symbol Acc HGNC 14247
B04	SBH1219772	ENST00000290299.7	ATP5PO	ENSG00000241837	ATP synthase peripheral stalk subunit OSCP Source HGNC Symbol Acc HGNC 850
B05	SBH1219773	ENST00000534943.5	ATP6V0A2	ENSG00000185344	ATPase H+ transporting V0 subunit a2 Source HGNC Symbol Acc HGNC 18481
B06	SBH1219774	ENST00000521564.1	ATP6V0D2	ENSG00000147614	ATPase H+ transporting V0 subunit d2 Source HGNC Symbol Acc HGNC 18266
B07	SBH0333241	ENST00000381661.3	ATP6V1C2	ENSG00000143882	ATPase H+ transporting V1 subunit C2 Source HGNC Symbol Acc HGNC 18264
B08	SBH0454081	ENST00000524249.5	ATP6V1E2	ENSG00000250565	ATPase H+ transporting V1 subunit E2 Source HGNC Symbol Acc HGNC 18125
B09	SBH0126935	ENST00000309309.11	ATP6V1G3	ENSG00000151418	ATPase H+ transporting V1 subunit G3 Source HGNC Symbol Acc HGNC 18265
B10	SBH0182429	ENST00000359273.7	BCS1L	ENSG00000074582	BCS1 homolog, ubiquinol-cytochrome c reductase complex chaperone Source HGNC Symbol Acc HGNC 1020
B11	SBH0013198	ENST00000253452.6	COX4I1	ENSG00000131143	cytochrome c oxidase subunit 4I1 Source HGNC Symbol Acc HGNC 2265
B12	SBH1219901	ENST00000376075.3	COX4I2	ENSG00000131055	cytochrome c oxidase subunit 4I2 Source HGNC Symbol Acc HGNC 16232
C01	SBH1219902	ENST00000322347.11	COX5A	ENSG00000178741	cytochrome c oxidase subunit 5A Source HGNC Symbol Acc HGNC 2267
C02	SBH0645599	ENST00000258424.2	COX5B	ENSG00000135940	cytochrome c oxidase subunit 5B Source HGNC Symbol Acc HGNC 2269
C03	SBH1219903	ENST00000229379.3	COX6A1	ENSG00000111775	cytochrome c oxidase subunit 6A1 Source HGNC Symbol Acc HGNC 2277
C04	SBH1219904	ENST00000287490.5	COX6A2	ENSG00000156885	cytochrome c oxidase subunit 6A2 Source HGNC Symbol Acc HGNC 2279
C05	SBH1219905	ENST00000246554.7	COX6B1	ENSG00000126267	cytochrome c oxidase subunit 6B1 Source HGNC Symbol Acc HGNC 2280
C06	SBH1219906	ENST00000593184.5	COX6B2	ENSG00000160471	cytochrome c oxidase subunit 6B2 Source HGNC Symbol Acc HGNC 24380
C07	SBH0242042	ENST00000520517.5	COX6C	ENSG00000164919	cytochrome c oxidase subunit 6C Source HGNC Symbol Acc HGNC 2285
C08	SBH0070225	ENST00000370089.6	COX7A2	ENSG00000112695	cytochrome c oxidase subunit 7A2 Source HGNC Symbol Acc HGNC 2288
C09	SBH0057221	ENST00000482463.5	COX7A2L	ENSG00000115944	cytochrome c oxidase subunit 7A2 like Source HGNC Symbol Acc HGNC 2289
C10	SBH1219907	ENST00000647835.1	COX7B	ENSG00000131174	cytochrome c oxidase subunit 7B Source HGNC Symbol Acc HGNC 2291
		ENST00000314		ENSG00000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH1219908	133.4	COX8A	176340	cytochrome c oxidase subunit 8A Source HGNC Symbol Acc HGNC 2294
C12	SBH1219909	ENST00000342144.2	COX8C	ENSG00000187581	cytochrome c oxidase subunit 8C Source HGNC Symbol Acc HGNC 24382
D01	SBH1219936	ENST00000318911.5	CYC1	ENSG00000179091	cytochrome c1 Source HGNC Symbol Acc HGNC 2579
D02	SBH1220171	ENST00000368842.10	LHPP	ENSG00000107902	phospholysine phosphohistidine inorganic pyrophosphate phosphatase Source HGNC Symbol Acc HGNC 30042
D03	SBH1220239	ENST00000371437.5	NDUFA1	ENSG00000125356	NADH ubiquinone oxidoreductase subunit A1 Source HGNC Symbol Acc HGNC 7683
D04	SBH1220240	ENST00000307300.8	NDUFA10	ENSG00000130414	NADH ubiquinone oxidoreductase subunit A10 Source HGNC Symbol Acc HGNC 7684
D05	SBH0178082	ENST00000308961.4	NDUFA11	ENSG00000174886	NADH ubiquinone oxidoreductase subunit A11 Source HGNC Symbol Acc HGNC 20371
D06	SBH1220241	ENST00000512088.1	NDUFA2	ENSG00000131495	NADH ubiquinone oxidoreductase subunit A2 Source HGNC Symbol Acc HGNC 7685
D07	SBH1220242	ENST00000391763.3	NDUFA3	ENSG00000170906	NADH ubiquinone oxidoreductase subunit A3 Source HGNC Symbol Acc HGNC 7686
D08	SBH1220243	ENST00000339600.6	NDUFA4	ENSG00000189043	NDUFA4, mitochondrial complex associated Source HGNC Symbol Acc HGNC 7687
D09	SBH1220244	ENST00000611607.4	NDUFA5	ENSG00000128609	NADH ubiquinone oxidoreductase subunit A5 Source HGNC Symbol Acc HGNC 7688
D10	SBH1220245	ENST00000470753.1	NDUFA6	ENSG00000184983	NADH ubiquinone oxidoreductase subunit A6 Source HGNC Symbol Acc HGNC 7690
D11	SBH0459343	ENST00000593729.5	NDUFA7	ENSG00000267855	NADH ubiquinone oxidoreductase subunit A7 Source HGNC Symbol Acc HGNC 7691
D12	SBH1220246	ENST00000373768.4	NDUFA8	ENSG00000119421	NADH ubiquinone oxidoreductase subunit A8 Source HGNC Symbol Acc HGNC 7692
E01	SBH1220247	ENST00000570319.5	NDUFAB1	ENSG00000004779	NADH ubiquinone oxidoreductase subunit AB1 Source HGNC Symbol Acc HGNC 7694
E02	SBH1220248	ENST00000570172.1	NDUFB10	ENSG00000140990	NADH ubiquinone oxidoreductase subunit B10 Source HGNC Symbol Acc HGNC 7696
E03	SBH0526152	ENST00000471136.5	NDUFB2	ENSG00000090266	NADH ubiquinone oxidoreductase subunit B2 Source HGNC Symbol Acc HGNC 7697
E04	SBH0256230	ENST00000237889.9	NDUFB3	ENSG00000119013	NADH ubiquinone oxidoreductase subunit B3 Source HGNC Symbol Acc HGNC 7698
E05	SBH1220249	ENST00000184266.3	NDUFB4	ENSG00000065518	NADH ubiquinone oxidoreductase subunit B4 Source HGNC Symbol Acc HGNC 7699
E06	SBH1220250	ENST00000611971.4	NDUFB5	ENSG00000136521	NADH ubiquinone oxidoreductase subunit B5 Source HGNC Symbol Acc HGNC 7700
E07	SBH0232522	ENST00000350021.2	NDUFB6	ENSG00000165264	NADH ubiquinone oxidoreductase subunit B6 Source HGNC Symbol Acc HGNC 7701
E08	SBH1220251	ENST00000215565.3	NDUFB7	ENSG00000099795	NADH ubiquinone oxidoreductase subunit B7 Source HGNC Symbol Acc HGNC 7702
E09	SBH1220252	ENST00000299166.9	NDUFB8	ENSG00000166136	NADH ubiquinone oxidoreductase subunit B8 Source HGNC Symbol Acc HGNC 7703
E10	SBH1220253	ENST00000518008.5	NDUFB9	ENSG00000147684	NADH ubiquinone oxidoreductase subunit B9 Source HGNC Symbol Acc HGNC 7704
E11	SBH0163532	ENST00000505036.5	NDUFC1	ENSG00000109390	NADH ubiquinone oxidoreductase subunit C1 Source HGNC Symbol Acc HGNC 7705
E12	SBH1220254	ENST00000525085.1	NDUFC2	ENSG00000151366	NADH ubiquinone oxidoreductase subunit C2 Source HGNC Symbol Acc HGNC 7706
F01	SBH1220255	ENST00000233190.11	NDUFS1	ENSG00000023228	NADH ubiquinone oxidoreductase core subunit S1 Source HGNC Symbol Acc HGNC 7707
F02	SBH0067165	ENST00000367993.7	NDUFS2	ENSG00000158864	NADH ubiquinone oxidoreductase core subunit S2 Source HGNC Symbol Acc HGNC 7708
F03	SBH1220256	ENST00000263774.9	NDUFS3	ENSG00000213619	NADH ubiquinone oxidoreductase core subunit S3 Source HGNC Symbol Acc HGNC 7710
F04	SBH1220257	ENST00000296684.10	NDUFS4	ENSG00000164258	NADH ubiquinone oxidoreductase subunit S4 Source HGNC Symbol Acc HGNC 7711
F05	SBH1220258	ENST00000372967.3	NDUFS5	ENSG00000168653	NADH ubiquinone oxidoreductase subunit S5 Source HGNC Symbol Acc HGNC 7712
F06	SBH0573567	ENST00000274137.9	NDUFS6	ENSG00000145494	NADH ubiquinone oxidoreductase subunit S6 Source HGNC Symbol Acc HGNC 7713
F07	SBH1220259	ENST00000620479.4	NDUFS7	ENSG00000115286	NADH ubiquinone oxidoreductase core subunit S7 Source HGNC Symbol Acc HGNC 7714
F08	SBH1220260	ENST00000313468.10	NDUFS8	ENSG00000110717	NADH ubiquinone oxidoreductase core subunit S8 Source HGNC Symbol Acc HGNC 7715
F09	SBH0058481	ENST00000322776.10	NDUFV1	ENSG00000167792	NADH ubiquinone oxidoreductase core subunit V1 Source HGNC Symbol Acc HGNC 7716
F10	SBH1220261	ENST00000400033.1	NDUFV2	ENSG00000178127	NADH ubiquinone oxidoreductase core subunit V2 Source HGNC Symbol Acc HGNC 7717

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH1220262	ENST00000354250.7	NDUFV3	ENSG00000160194	NADH ubiquinone oxidoreductase subunit V3 Source HGNC Symbol Acc HGNC 7719
F12	SBH1220288	ENST00000431881.6	OXA1L	ENSG00000155463	OXA1L, mitochondrial inner membrane protein Source HGNC Symbol Acc HGNC 8526
G01	SBH1220320	ENST00000373232.8	PPA1	ENSG00000180817	pyrophosphatase (inorganic) 1 Source HGNC Symbol Acc HGNC 9226
G02	SBH1220321	ENST00000341695.10	PPA2	ENSG00000138777	pyrophosphatase (inorganic) 2 Source HGNC Symbol Acc HGNC 28883
G03	SBH1220382	ENST00000617470.4	SDHA	ENSG00000073578	succinate dehydrogenase complex flavoprotein subunit A Source HGNC Symbol Acc HGNC 10680
G04	SBH0151267	ENST00000375499.7	SDHB	ENSG00000117118	succinate dehydrogenase complex iron sulfur subunit B Source HGNC Symbol Acc HGNC 10681
G05	SBH1220383	ENST00000367975.6	SDHC	ENSG00000143252	succinate dehydrogenase complex subunit C Source HGNC Symbol Acc HGNC 10682
G06	SBH0029124	ENST00000640554.1	SDHD	ENSG00000204370	succinate dehydrogenase complex subunit D Source HGNC Symbol Acc HGNC 10683
G07	SBH1220507	ENST00000589880.1	UQCR11	ENSG00000127540	ubiquinol-cytochrome c reductase, complex III subunit XI Source HGNC Symbol Acc HGNC 30862
G08	SBH1220508	ENST00000203407.6	UQCRC1	ENSG00000010256	ubiquinol-cytochrome c reductase core protein 1 Source HGNC Symbol Acc HGNC 12585
G09	SBH0577561	ENST00000268379.8	UQCRC2	ENSG00000140740	ubiquinol-cytochrome c reductase core protein 2 Source HGNC Symbol Acc HGNC 12586
G10	SBH1220509	ENST00000304863.6	UQCRFS1	ENSG00000169021	ubiquinol-cytochrome c reductase, Rieske iron-sulfur polypeptide 1 Source HGNC Symbol Acc HGNC 12587
G11	SBH1220510	ENST00000311672.10	UQCRH	ENSG00000173660	ubiquinol-cytochrome c reductase hinge protein Source HGNC Symbol Acc HGNC 12590
G12	SBH0352090	ENST00000378667.1	UQCRQ	ENSG00000164405	ubiquinol-cytochrome c reductase complex III subunit VII Source HGNC Symbol Acc HGNC 29594
H01	SBH1220543	ENST00000646664.1	ACTB	ENSG00000075624	actin beta Source HGNC Symbol Acc HGNC 132
H02	SBH1220550	ENST00000558401.6	B2M	ENSG00000166710	beta-2-microglobulin Source HGNC Symbol Acc HGNC 914
H03	SBH1220545	ENST00000396861.5	GAPDH	ENSG00000111640	glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141
H04	SBH1220546	ENST00000298556.8	HPRT1	ENSG00000165704	hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157
H05	SBH1220553	ENST00000546989.5	RPLP0	ENSG00000089157	ribosomal protein lateral stalk subunit P0 Source HGNC Symbol Acc HGNC 10371
H06	SBH1218553	Sybr_HGDC	HGDC	Sybr_HGDC	Human 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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