

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

## Human Mitochondria

Cat. no. 249955 UPHS-087ZA

For study focus gene expression analysis

### Shipping and storage

QuantiNova LNA Probe PCR Focus Panels are shipped at room temperature. Immediately upon receipt, they should be stored protected from light 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 Probe PCR Focus Panels should be used together with the QuantiNova Reverse Transcription Kit for cDNA synthesis and the QuantiNova Probe PCR Kit (Mastermix) for PCR.

### Panel layout (96-well): QuantiNova LNA Probe PCR Focus Panel

For the 384-well (4 × 96) PCR panels, genes are present in a staggered format. Refer to the QuantiNova LNA Probe PCR Handbook at [www.qiagen.com](http://www.qiagen.com) for further details.

	1	2	3	4	5	6	7	8	9	10	11	12
A	AIFM2	AIP	BAK1	BBC3	BCL2	BCL2L1	BID	BNIP3	CDKN2A	COX10	COX18	CPT1B
B	CPT2	DNM1L	FIS1	TIMM10B	GRPEL1	HSP90AA1	HSPD1	IMMP1L	IMMP2L	LRPPRC	MFN1	MFN2
C	MIPEP	MPV17	MSTO1	MTX2	NEFL	OPA1	PMAIP1	RHOT1	RHOT2	SFN	SH3GLB1	SLC25A1
D	SLC25A10	SLC25A12	SLC25A13	SLC25A14	SLC25A15	SLC25A16	SLC25A17	SLC25A19	SLC25A2	SLC25A20	SLC25A21	SLC25A22
E	SLC25A23	SLC25A24	SLC25A25	SLC25A27	SLC25A3	SLC25A30	SLC25A31	SLC25A37	SLC25A4	SLC25A5	SOD1	SOD2
F	STARD3	TAZ	TIMM10	TIMM17A	TIMM17B	TIMM22	TIMM23	TIMM44	TIMM50	TIMM8A	TIMM8B	TIMM9
G	TOMM20	TOMM22	TOMM34	TOMM40	TOMM40L	TOMM70	TP53	TSPO	UCP1	UCP2	UCP3	UXT
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	QIC	QIC	QIC	PPC	PPC	PPC

## Gene table: QuantiNova LNA Probe PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	UPFH0187853	ENST00000613322.4	AIFM2	ENSG00000042286	apoptosis inducing factor, mitochondria associated 2 Source HGNC Symbol Acc HGNC 21411
A02	UPFH0369035	ENST00000528641.6	AIP	ENSG00000110711	aryl hydrocarbon receptor interacting protein Source HGNC Symbol Acc HGNC 358
A03	UPFH1132266	ENST00000360661.9	BAK1	ENSG00000030110	BCL2 antagonist/killer 1 Source HGNC Symbol Acc HGNC 949
A04	UPFH0224436	ENST00000439096.2	BBC3	ENSG00000105327	BCL2 binding component 3 Source HGNC Symbol Acc HGNC 17868
A05	UPFH1132900	ENST00000333681.5	BCL2	ENSG00000171791	BCL2, apoptosis regulator Source HGNC Symbol Acc HGNC 990
A06	UPFH1132271	ENST00000376062.6	BCL2L1	ENSG00000171552	BCL2 like 1 Source HGNC Symbol Acc HGNC 992
A07	UPFH0184066	ENST00000622694.4	BID	ENSG00000015475	BH3 interacting domain death agonist Source HGNC Symbol Acc HGNC 1050
A08	UPFH0140616	ENST00000633835.1	BNIP3	ENSG00000176171	BCL2 interacting protein 3 Source HGNC Symbol Acc HGNC 1084
A09	UPFH0246593	ENST00000494262.5	CDKN2A	ENSG00000147889	cyclin dependent kinase inhibitor 2A Source HGNC Symbol Acc HGNC 1787
A10	UPFH0479275	ENST00000581931.5	COX10	ENSG00000006695	cytochrome c oxidase assembly factor heme A farnesyltransferase COX10 Source HGNC Symbol Acc HGNC 2260
A11	UPFH0566950	ENST00000507544.2	COX18	ENSG00000163626	cytochrome c oxidase assembly factor COX18 Source HGNC Symbol Acc HGNC 26801
A12	UPFH0183411	ENST00000395650.6	CPT1B	ENSG00000205560	carnitine palmitoyltransferase 1B Source HGNC Symbol Acc HGNC 2329
B01	UPFH1132334	ENST00000636891.1	CPT2	ENSG00000157184	carnitine palmitoyltransferase 2 Source HGNC Symbol Acc HGNC 2330
B02	UPFH1124171	ENST00000434676.6	DNM1L	ENSG00000087470	dynammin 1 like Source HGNC Symbol Acc HGNC 2973
B03	UPFH0240233	ENST00000473527.5	FIS1	ENSG000000214253	fission, mitochondrial 1 Source HGNC Symbol Acc HGNC 21689
B04	UPFH0096113	ENST00000530751.1	TIMM10B	ENSG00000132286	translocase of inner mitochondrial membrane 10B Source HGNC Symbol Acc HGNC 4022
B05	UPFH0577604	ENST00000514056.1	GRPEL1	ENSG00000109519	GrpE like 1, mitochondrial Source HGNC Symbol Acc HGNC 19696
B06	UPFH0292880	ENST00000334701.1	HSP90AA1	ENSG00000080824	heat shock protein 90 alpha family class A member 1 Source HGNC Symbol Acc HGNC 5253
B07	UPFH1132460	ENST00000388968.8	HSPD1	ENSG00000144381	heat shock protein family D (Hsp60) member 1 Source HGNC Symbol Acc HGNC 5261
B08	UPFH0330181	ENST00000531693.1	IMMP1L	ENSG00000148950	inner mitochondrial membrane peptidase subunit 1 Source HGNC Symbol Acc HGNC 26317
B09	UPFH0046585	ENST00000405709.6	IMMP2L	ENSG00000184903	inner mitochondrial membrane peptidase subunit 2 Source HGNC Symbol Acc HGNC 14598
B10	UPFH0111570	ENST00000409946.5	LRPPRC	ENSG00000138095	leucine rich pentatricopeptide repeat containing Source HGNC Symbol Acc HGNC 15714
B11	UPFH0515349	ENST00000474903.1	MFN1	ENSG00000171109	mitofusin 1 Source HGNC Symbol Acc HGNC 18262
B12	UPFH0148612	ENST00000484391.5	MFN2	ENSG00000116688	mitofusin 2 Source HGNC Symbol Acc HGNC 16877
C01	UPFH0258001	ENST00000433710.2	MIPEP	ENSG00000027001	mitochondrial intermediate peptidase Source HGNC Symbol Acc HGNC 7104
C02	UPFH1132555	ENST00000233545.6	MPV17	ENSG00000115204	mitochondrial inner membrane protein MPV17 Source HGNC Symbol Acc HGNC 7224
C03	UPFH0050877	ENST00000491308.5	MSTO1	ENSG00000125459	misato mitochondrial distribution and morphology regulator 1 Source HGNC Symbol Acc HGNC 29678
C04	UPFH0289623	ENST00000420864.5	MTX2	ENSG00000128654	metaxin 2 Source HGNC Symbol Acc HGNC 7506
C05	UPFH0382465	ENST00000610854.1	NEFL	ENSG00000277586	neurofilament light Source HGNC Symbol Acc HGNC 7739
C06	UPFH0304327	ENST00000361828.7	OPA1	ENSG00000198836	OPA1, mitochondrial dynammin like GTPase Source HGNC Symbol Acc HGNC 8140
C07	UPFH0103346	ENST00000316660.6	PMAIP1	ENSG00000141682	phorbol-12-myristate-13-acetate-induced protein 1 Source HGNC Symbol Acc HGNC 9108
C08	UPFH0507484	ENST00000358365.7	RHOT1	ENSG00000126858	ras homolog family member T1 Source HGNC Symbol Acc HGNC 21168
C09	UPFH0085587	ENST00000315082.9	RHOT2	ENSG00000140983	ras homolog family member T2 Source HGNC Symbol Acc HGNC 21169
C10	UPFH0380654	ENST00000339276.6	SFN	ENSG00000175793	stratifin Source HGNC Symbol Acc HGNC 10773
		ENST0000030370		ENSG000000	SH3 domain containing GRB2 like, endophilin B1 Source HGNC Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFH0019678	558.8	SH3GLB1	097033	HGNC 10833
C12	UPFH0101089	ENST00000451283.5	SLC25A1	ENSG00000100075	solute carrier family 25 member 1 Source HGNC Symbol Acc HGNC 10979
D01	UPFH0141420	ENST00000545862.5	SLC25A10	ENSG00000183048	solute carrier family 25 member 10 Source HGNC Symbol Acc HGNC 10980
D02	UPFH0122150	ENST00000484227.5	SLC25A12	ENSG00000115840	solute carrier family 25 member 12 Source HGNC Symbol Acc HGNC 10982
D03	UPFH0477428	ENST00000265631.9	SLC25A13	ENSG00000004864	solute carrier family 25 member 13 Source HGNC Symbol Acc HGNC 10983
D04	UPFH0247175	ENST00000612248.4	SLC25A14	ENSG00000102078	solute carrier family 25 member 14 Source HGNC Symbol Acc HGNC 10984
D05	UPFH0108458	ENST00000470509.1	SLC25A15	ENSG00000102743	solute carrier family 25 member 15 Source HGNC Symbol Acc HGNC 10985
D06	UPFH0264289	ENST00000493963.5	SLC25A16	ENSG00000122912	solute carrier family 25 member 16 Source HGNC Symbol Acc HGNC 10986
D07	UPFH0583651	ENST00000402844.7	SLC25A17	ENSG00000100372	solute carrier family 25 member 17 Source HGNC Symbol Acc HGNC 10987
D08	UPFH0093811	ENST00000579207.5	SLC25A19	ENSG00000125454	solute carrier family 25 member 19 Source HGNC Symbol Acc HGNC 14409
D09	UPFH0355074	ENST00000239451.6	SLC25A2	ENSG00000120329	solute carrier family 25 member 2 Source HGNC Symbol Acc HGNC 22921
D10	UPFH0399244	ENST00000440964.1	SLC25A20	ENSG00000178537	solute carrier family 25 member 20 Source HGNC Symbol Acc HGNC 1421
D11	UPFH0013791	ENST00000331299.5	SLC25A21	ENSG00000183032	solute carrier family 25 member 21 Source HGNC Symbol Acc HGNC 14411
D12	UPFH0361774	ENST00000532484.5	SLC25A22	ENSG00000177542	solute carrier family 25 member 22 Source HGNC Symbol Acc HGNC 19954
E01	UPFH0000671	ENST00000334510.9	SLC25A23	ENSG00000125648	solute carrier family 25 member 23 Source HGNC Symbol Acc HGNC 19375
E02	UPFH0240068	ENST00000264128.13	SLC25A24	ENSG00000085491	solute carrier family 25 member 24 Source HGNC Symbol Acc HGNC 20662
E03	UPFH0425295	ENST00000445012.2	SLC25A25	ENSG00000148339	solute carrier family 25 member 25 Source HGNC Symbol Acc HGNC 20663
E04	UPFH0442530	ENST00000604127.5	SLC25A27	ENSG00000153291	solute carrier family 25 member 27 Source HGNC Symbol Acc HGNC 21065
E05	UPFH0555516	ENST00000188376.9	SLC25A3	ENSG00000075415	solute carrier family 25 member 3 Source HGNC Symbol Acc HGNC 10989
E06	UPFH0417789	ENST00000539591.5	SLC25A30	ENSG00000174032	solute carrier family 25 member 30 Source HGNC Symbol Acc HGNC 27371
E07	UPFH0130590	ENST00000281154.6	SLC25A31	ENSG00000151475	solute carrier family 25 member 31 Source HGNC Symbol Acc HGNC 25319
E08	UPFH0194029	ENST00000523930.1	SLC25A37	ENSG00000147454	solute carrier family 25 member 37 Source HGNC Symbol Acc HGNC 29786
E09	UPFH0547612	ENST00000281456.11	SLC25A4	ENSG00000151729	solute carrier family 25 member 4 Source HGNC Symbol Acc HGNC 10990
E10	UPFH0531232	ENST00000475354.1	SLC25A5	ENSG00000005022	solute carrier family 25 member 5 Source HGNC Symbol Acc HGNC 10991
E11	UPFH0220920	ENST00000270142.10	SOD1	ENSG00000142168	superoxide dismutase 1 Source HGNC Symbol Acc HGNC 11179
E12	UPFH1132692	ENST00000367055.8	SOD2	ENSG00000112096	superoxide dismutase 2 Source HGNC Symbol Acc HGNC 11180
F01	UPFH0085256	ENST00000580551.5	STARD3	ENSG00000131748	STAR related lipid transfer domain containing 3 Source HGNC Symbol Acc HGNC 17579
F02	UPFH0013162	ENST00000617701.5	TAZ	ENSG00000102125	tafazzin Source HGNC Symbol Acc HGNC 11577
F03	UPFH0167085	ENST00000525587.1	TIMM10	ENSG00000134809	translocase of inner mitochondrial membrane 10 Source HGNC Symbol Acc HGNC 11814
F04	UPFH0271191	ENST00000484647.1	TIMM17A	ENSG00000134375	translocase of inner mitochondrial membrane 17A Source HGNC Symbol Acc HGNC 17315
F05	UPFH0530944	ENST00000495490.6	TIMM17B	ENSG00000126768	translocase of inner mitochondrial membrane 17B Source HGNC Symbol Acc HGNC 17310
F06	UPFH0424212	ENST00000327158.5	TIMM22	ENSG00000177370	translocase of inner mitochondrial membrane 22 Source HGNC Symbol Acc HGNC 17317
F07	UPFH0379043	ENST00000580018.4	TIMM23	ENSG00000265354	translocase of inner mitochondrial membrane 23 Source HGNC Symbol Acc HGNC 17312
F08	UPFH0212859	ENST00000597926.1	TIMM44	ENSG00000104980	translocase of inner mitochondrial membrane 44 Source HGNC Symbol Acc HGNC 17316
F09	UPFH0540232	ENST00000601358.5	TIMM50	ENSG00000105197	translocase of inner mitochondrial membrane 50 Source HGNC Symbol Acc HGNC 23656
F10	UPFH0546919	ENST00000372902.4	TIMM8A	ENSG00000126953	translocase of inner mitochondrial membrane 8A Source HGNC Symbol Acc HGNC 11817

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFH1125492	ENST00000504148.2	TIMM8B	ENSG00000150779	translocase of inner mitochondrial membrane 8 homolog B Source HGNC Symbol Acc HGNC 11818
F12	UPFH0330046	ENST00000556367.6	TIMM9	ENSG00000100575	translocase of inner mitochondrial membrane 9 Source HGNC Symbol Acc HGNC 11819
G01	UPFH0565345	ENST00000473132.1	TOMM20	ENSG00000173726	translocase of outer mitochondrial membrane 20 Source HGNC Symbol Acc HGNC 20947
G02	UPFH0526492	ENST00000216034.6	TOMM22	ENSG00000100216	translocase of outer mitochondrial membrane 22 Source HGNC Symbol Acc HGNC 18002
G03	UPFH0600675	ENST00000372813.4	TOMM34	ENSG00000025772	translocase of outer mitochondrial membrane 34 Source HGNC Symbol Acc HGNC 15746
G04	UPFH0124624	ENST00000589649.1	TOMM40	ENSG00000130204	translocase of outer mitochondrial membrane 40 Source NCBI gene Acc 10452
G05	UPFH0070418	ENST00000545897.5	TOMM40L	ENSG00000158882	translocase of outer mitochondrial membrane 40 like Source HGNC Symbol Acc HGNC 25756
G06	UPFH0392254	ENST00000492171.1	TOMM70	ENSG00000154174	translocase of outer mitochondrial membrane 70 Source HGNC Symbol Acc HGNC 11985
G07	UPFH0565795	ENST00000269305.8	TP53	ENSG00000141510	tumor protein p53 Source HGNC Symbol Acc HGNC 11998
G08	UPFH0577162	ENST00000396265.4	TSPO	ENSG00000100300	translocator protein Source HGNC Symbol Acc HGNC 1158
G09	UPFH0141236	ENST00000262999.4	UCP1	ENSG00000109424	uncoupling protein 1 Source HGNC Symbol Acc HGNC 12517
G10	UPFH0380346	ENST00000544615.5	UCP2	ENSG00000175567	uncoupling protein 2 Source HGNC Symbol Acc HGNC 12518
G11	UPFH0557580	ENST00000426995.2	UCP3	ENSG00000175564	uncoupling protein 3 Source HGNC Symbol Acc HGNC 12519
G12	UPFH0357671	ENST00000333119.7	UXT	ENSG00000126756	ubiquitously expressed prefoldin like chaperone Source HGNC Symbol Acc HGNC 12641
H01	UPFH1132936	ENST00000646664.1	ACTB	ENSG00000075624	actin beta Source HGNC Symbol Acc HGNC 132
H02	UPFH1132937	ENST00000544417.5	B2M	ENSG00000166710	beta-2-microglobulin Source HGNC Symbol Acc HGNC 914
H03	UPFH1132938	ENST00000229239.10	GAPDH	ENSG00000111640	glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141
H04	UPFH1132939	ENST00000298556.8	HPRT1	ENSG00000165704	hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157
H05	UPFH1132941	ENST00000392514.9	RPLP0	ENSG00000089157	ribosomal protein lateral stalk subunit P0 Source HGNC Symbol Acc HGNC 10371
H06	UPFH1126608	UPL_HGDC	HGDC	UPL_HGDC	Human Genomic DNA Contamination
H07	UPFH1126606	UPL_QIC	QIC	UPL_QIC	QuantiNova Internal Control
H08	UPFH1126606	UPL_QIC	QIC	UPL_QIC	QuantiNova Internal Control
H09	UPFH1126606	UPL_QIC	QIC	UPL_QIC	QuantiNova Internal Control
H10	UPFH1126605	UPL_PPC	PPC	UPL_PPC	Positive PCR Control
H11	UPFH1126605	UPL_PPC	PPC	UPL_PPC	Positive PCR Control
H12	UPFH1126605	UPL_PPC	PPC	UPL_PPC	Positive PCR Control



## Related products

Product	Contents	Cat. no.
QuantiNova LNA Probe PCR QC Panel	These panels are designed to assess the quality of RNA samples before characterization using QuantiNova LNA Probe PCR Focus Panels; available in 96-well, 384-well, and Rotor-Disc 100 formats	249945
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 Probe RT-PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml QuantiNova Probe RT-PCR Master Mix, 20 $\mu$ l QuantiNova Probe 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	208352
QuantiNova Probe PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml 2x QuantiNova Probe PCR Master Mix, 500 $\mu$ l QuantiNova Yellow Template Dilution Buffer, 250 $\mu$ l QN ROX Reference Dye, 1.9 ml Water	208252

\*Larger kit sizes available.

The QuantiNova LNA Probe 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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