

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

## Human Fatty Liver

Cat. no. 249955 UPHS-157ZA

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	ABCA1	ACACA	ACADL	ACLY	ACOX1	ACSL5	ACSM3	ADIPOR1	ADIPOR2	AKT1	APOA1	APOB
B	APOC3	APOE	ATP5F1C	CASP3	CD36	CEBPB	CNBP	CPT1A	CPT2	CYP2E1	CYP7A1	DGAT2
C	FABP1	FABP3	FABP5	FAS	FASN	FOXA2	FOXO1	G6PC	G6PD	GCK	GK	GSK3B
D	HMGCR	HNF4A	IFNG	IGF1	IGFBP1	IL10	IL1B	IL6	INSR	IRS1	LDLR	LEPR
E	LPL	MAPK1	MAPK8	MLXIPL	MTOR	NDUFB6	NFKB1	NR1H2	NR1H3	NR1H4	PCK2	PKD4
F	PIK3CA	PIK3R1	PKLR	PNPLA3	PPA1	PPARA	PPARG	PPARGC1A	PRKAA1	PTPN1	RBP4	RXRA
G	SCD	SERPINE1	SLC27A5	SLC2A1	SLC2A2	SLC2A4	SOCS3	SREBF1	SREBF2	STAT3	TNF	XBP1
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	UPFH0384523	ENST00000423487.6	ABCA1	ENSG00000165029	ATP binding cassette subfamily A member 1 Source HGNC Symbol Acc HGNC 29
A02	UPFH0196586	ENST00000617649.4	ACACA	ENSG00000278540	acetyl-CoA carboxylase alpha Source HGNC Symbol Acc HGNC 84
A03	UPFH0539614	ENST00000482502.1	ACADL	ENSG00000115361	acyl-CoA dehydrogenase long chain Source HGNC Symbol Acc HGNC 88
A04	UPFH1132862	ENST00000537919.5	ACLY	ENSG00000131473	ATP citrate lyase Source HGNC Symbol Acc HGNC 115
A05	UPFH0241138	ENST00000573078.5	ACOX1	ENSG00000161533	acyl-CoA oxidase 1 Source HGNC Symbol Acc HGNC 119
A06	UPFH1132214	ENST00000433418.5	ACSL5	ENSG00000197142	acyl-CoA synthetase long chain family member 5 Source HGNC Symbol Acc HGNC 16526
A07	UPFH0341480	ENST00000440284.6	ACSM3	ENSG00000005187	acyl-CoA synthetase medium chain family member 3 Source HGNC Symbol Acc HGNC 10522
A08	UPFH0106515	ENST00000367254.7	ADIPOR1	ENSG00000159346	adiponectin receptor 1 Source HGNC Symbol Acc HGNC 24040
A09	UPFH0573163	ENST00000357103.5	ADIPOR2	ENSG00000006831	adiponectin receptor 2 Source HGNC Symbol Acc HGNC 24041
A10	UPFH0453992	ENST00000555528.5	AKT1	ENSG00000142208	AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391
A11	UPFH0042718	ENST00000375329.6	APOA1	ENSG00000118137	apolipoprotein A1 Source HGNC Symbol Acc HGNC 600
A12	UPFH0387821	ENST00000399256.4	APOB	ENSG00000084674	apolipoprotein B Source HGNC Symbol Acc HGNC 603
B01	UPFH0066022	ENST00000375345.3	APOC3	ENSG00000110245	apolipoprotein C3 Source HGNC Symbol Acc HGNC 610
B02	UPFH0539669	ENST00000425718.1	APOE	ENSG00000130203	apolipoprotein E Source HGNC Symbol Acc HGNC 613
B03	UPFH0196265	ENST00000460820.6	ATP5F1C	ENSG00000165629	ATP synthase F1 subunit gamma Source HGNC Symbol Acc HGNC 833
B04	UPFH1132892	ENST00000523916.5	CASP3	ENSG00000164305	caspase 3 Source HGNC Symbol Acc HGNC 1504
B05	UPFH1125151	ENST00000433696.6	CD36	ENSG00000135218	CD36 molecule Source HGNC Symbol Acc HGNC 1663
B06	UPFH0202295	ENST00000303004.4	CEBPB	ENSG00000172216	CCAAT enhancer binding protein beta Source HGNC Symbol Acc HGNC 1834
B07	UPFH0329673	ENST00000451728.6	CNBP	ENSG00000169714	CCHC-type zinc finger nucleic acid binding protein Source HGNC Symbol Acc HGNC 13164
B08	UPFH0043897	ENST00000540367.5	CPT1A	ENSG00000110090	carnitine palmitoyltransferase 1A Source HGNC Symbol Acc HGNC 2328
B09	UPFH1132334	ENST00000636891.1	CPT2	ENSG00000157184	carnitine palmitoyltransferase 2 Source HGNC Symbol Acc HGNC 2330
B10	UPFH0106530	ENST00000421586.5	CYP2E1	ENSG00000130649	cytochrome P450 family 2 subfamily E member 1 Source HGNC Symbol Acc HGNC 2631
B11	UPFH0370331	ENST00000301645.4	CYP7A1	ENSG00000167910	cytochrome P450 family 7 subfamily A member 1 Source HGNC Symbol Acc HGNC 2651
B12	UPFH0235825	ENST00000604733.5	DGAT2	ENSG00000062282	diacylglycerol O-acyltransferase 2 Source HGNC Symbol Acc HGNC 16940
C01	UPFH0465765	ENST00000295834.7	FABP1	ENSG00000163586	fatty acid binding protein 1 Source HGNC Symbol Acc HGNC 3555
C02	UPFH0313060	ENST00000373713.6	FABP3	ENSG00000121769	fatty acid binding protein 3 Source HGNC Symbol Acc HGNC 3557
C03	UPFH0238291	ENST00000396359.1	FABP5	ENSG00000164687	fatty acid binding protein 5 Source HGNC Symbol Acc HGNC 3560
C04	UPFH1132395	ENST00000357339.6	FAS	ENSG00000026103	Fas cell surface death receptor Source HGNC Symbol Acc HGNC 11920
C05	UPFH0422393	ENST00000635197.1	FASN	ENSG00000169710	fatty acid synthase Source HGNC Symbol Acc HGNC 3594
C06	UPFH0135307	ENST00000419308.6	FOXA2	ENSG00000125798	forkhead box A2 Source HGNC Symbol Acc HGNC 5022
C07	UPFH0401417	ENST00000379561.6	FOXO1	ENSG00000150907	forkhead box O1 Source HGNC Symbol Acc HGNC 3819
C08	UPFH0468561	ENST00000253801.6	G6PC	ENSG00000131482	glucose-6-phosphatase catalytic subunit Source HGNC Symbol Acc HGNC 4056
C09	UPFH0397211	ENST00000621232.5	G6PD	ENSG00000160211	glucose-6-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4057
C10	UPFH0335565	ENST00000395796.7	GCK	ENSG00000106633	glucokinase Source HGNC Symbol Acc HGNC 4195
		ENST00000479		ENSG000000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFH0598917	048.5	GK	198814	glycerol kinase Source HGNC Symbol Acc HGNC 4289
C12	UPFH0470775	ENST00000316626.5	GSK3B	ENSG00000082701	glycogen synthase kinase 3 beta Source HGNC Symbol Acc HGNC 4617
D01	UPFH0368825	ENST00000343975.9	HMGCR	ENSG00000113161	3-hydroxy-3-methylglutaryl-CoA reductase Source HGNC Symbol Acc HGNC 5006
D02	UPFH0223088	ENST00000372920.1	HNF4A	ENSG00000101076	hepatocyte nuclear factor 4 alpha Source HGNC Symbol Acc HGNC 5024
D03	UPFH1132473	ENST00000229135.4	IFNG	ENSG00000111537	interferon gamma Source HGNC Symbol Acc HGNC 5438
D04	UPFH0229443	ENST00000337514.10	IGF1	ENSG00000017427	insulin like growth factor 1 Source HGNC Symbol Acc HGNC 5464
D05	UPFH0226057	ENST00000468955.1	IGFBP1	ENSG00000146678	insulin like growth factor binding protein 1 Source HGNC Symbol Acc HGNC 5469
D06	UPFH0028177	ENST00000423557.1	IL10	ENSG00000136634	interleukin 10 Source HGNC Symbol Acc HGNC 5962
D07	UPFH0163764	ENST00000263341.6	IL1B	ENSG00000125538	interleukin 1 beta Source HGNC Symbol Acc HGNC 5992
D08	UPFH1172910	ENST00000258743.10	IL6	ENSG00000136244	interleukin 6 Source HGNC Symbol Acc HGNC 6018
D09	UPFH0483358	ENST00000598216.1	INSR	ENSG00000171105	insulin receptor Source HGNC Symbol Acc HGNC 6091
D10	UPFH0592509	ENST00000305123.5	IRS1	ENSG00000169047	insulin receptor substrate 1 Source HGNC Symbol Acc HGNC 6125
D11	UPFH0616676	ENST00000252444.9	LDLR	ENSG00000130164	low density lipoprotein receptor Source HGNC Symbol Acc HGNC 6547
D12	UPFH0300038	ENST00000371060.7	LEPR	ENSG00000116678	leptin receptor Source HGNC Symbol Acc HGNC 6554
E01	UPFH1132523	ENST00000311322.10	LPL	ENSG00000175445	lipoprotein lipase Source HGNC Symbol Acc HGNC 6677
E02	UPFH0366815	ENST00000215832.10	MAPK1	ENSG00000100030	mitogen-activated protein kinase 1 Source HGNC Symbol Acc HGNC 6871
E03	UPFH1132535	ENST00000374179.8	MAPK8	ENSG00000107643	mitogen-activated protein kinase 8 Source HGNC Symbol Acc HGNC 6881
E04	UPFH0511182	ENST00000414749.6	MLXIPL	ENSG00000009950	MLX interacting protein like Source HGNC Symbol Acc HGNC 12744
E05	UPFH1132560	ENST00000361445.8	MTOR	ENSG00000198793	mechanistic target of rapamycin kinase Source HGNC Symbol Acc HGNC 3942
E06	UPFH0211368	ENST00000366466.5	NDUFB6	ENSG00000165264	NADH ubiquinone oxidoreductase subunit B6 Source HGNC Symbol Acc HGNC 7701
E07	UPFH1132828	ENST00000226574.9	NFKB1	ENSG00000109320	nuclear factor kappa B subunit 1 Source HGNC Symbol Acc HGNC 7794
E08	UPFH0416421	ENST00000411902.6	NR1H2	ENSG00000131408	nuclear receptor subfamily 1 group H member 2 Source NCBI gene Acc 7376
E09	UPFH0556560	ENST00000616973.4	NR1H3	ENSG00000025434	nuclear receptor subfamily 1 group H member 3 Source HGNC Symbol Acc HGNC 7966
E10	UPFH0255215	ENST00000188403.7	NR1H4	ENSG00000012504	nuclear receptor subfamily 1 group H member 4 Source HGNC Symbol Acc HGNC 7967
E11	UPFH0165951	ENST00000216780.8	PCK2	ENSG00000100889	phosphoenolpyruvate carboxykinase 2, mitochondrial Source HGNC Symbol Acc HGNC 8725
E12	UPFH1132611	ENST00000005178.6	PK4	ENSG00000004799	pyruvate dehydrogenase kinase 4 Source HGNC Symbol Acc HGNC 8812
F01	UPFH0109251	ENST00000462255.1	PIK3CA	ENSG00000121879	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha Source HGNC Symbol Acc HGNC 8975
F02	UPFH0549122	ENST00000521381.6	PIK3R1	ENSG00000145675	phosphoinositide-3-kinase regulatory subunit 1 Source HGNC Symbol Acc HGNC 8979
F03	UPFH1132919	ENST00000392414.7	PKLR	ENSG00000143627	pyruvate kinase L/R Source HGNC Symbol Acc HGNC 9020
F04	UPFH0188632	ENST00000406117.6	PNPLA3	ENSG00000100344	patatin like phospholipase domain containing 3 Source HGNC Symbol Acc HGNC 18590
F05	UPFH1132627	ENST00000373232.8	PPA1	ENSG00000180817	pyrophosphatase (inorganic) 1 Source HGNC Symbol Acc HGNC 9226
F06	UPFH0327373	ENST00000262735.9	PPARA	ENSG00000186951	peroxisome proliferator activated receptor alpha Source HGNC Symbol Acc HGNC 9232
F07	UPFH0284890	ENST00000477039.5	PPARG	ENSG00000132170	peroxisome proliferator activated receptor gamma Source HGNC Symbol Acc HGNC 9236
F08	UPFH0403608	ENST00000264867.7	PPARGC1A	ENSG00000109819	PPARG coactivator 1 alpha Source HGNC Symbol Acc HGNC 9237
F09	UPFH0363221	ENST00000397128.6	PRKAA1	ENSG00000132356	protein kinase AMP-activated catalytic subunit alpha 1 Source HGNC Symbol Acc HGNC 9376
F10	UPFH0306220	ENST00000371621.5	PTPN1	ENSG00000196396	protein tyrosine phosphatase, non-receptor type 1 Source HGNC Symbol Acc HGNC 9642

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFH0281282	ENST00000371467.5	RBP4	ENSG00000138207	retinol binding protein 4 Source HGNC Symbol Acc HGNC 9922
F12	UPFH0039313	ENST00000356384.4	RXRA	ENSG00000186350	retinoid X receptor alpha Source HGNC Symbol Acc HGNC 10477
G01	UPFH0108490	ENST00000370355.3	SCD	ENSG00000099194	stearoyl-CoA desaturase Source HGNC Symbol Acc HGNC 10571
G02	UPFH0384736	ENST00000223095.4	SERPINE1	ENSG00000106366	serpin family E member 1 Source HGNC Symbol Acc HGNC 8583
G03	UPFH0570082	ENST00000263093.7	SLC27A5	ENSG00000083807	solute carrier family 27 member 5 Source HGNC Symbol Acc HGNC 10999
G04	UPFH0225912	ENST00000426263.8	SLC2A1	ENSG00000117394	solute carrier family 2 member 1 Source HGNC Symbol Acc HGNC 11005
G05	UPFH0582813	ENST00000471379.1	SLC2A2	ENSG00000163581	solute carrier family 2 member 2 Source HGNC Symbol Acc HGNC 11006
G06	UPFH0163622	ENST00000317370.12	SLC2A4	ENSG00000181856	solute carrier family 2 member 4 Source HGNC Symbol Acc HGNC 11009
G07	UPFH1132974	ENST00000330871.3	SOCS3	ENSG00000184557	suppressor of cytokine signaling 3 Source HGNC Symbol Acc HGNC 19391
G08	UPFH0380685	ENST00000490796.1	SREBF1	ENSG00000072310	sterol regulatory element binding transcription factor 1 Source HGNC Symbol Acc HGNC 11289
G09	UPFH0366862	ENST00000462539.1	SREBF2	ENSG00000198911	sterol regulatory element binding transcription factor 2 Source HGNC Symbol Acc HGNC 11290
G10	UPFH0531262	ENST00000404395.3	STAT3	ENSG00000168610	signal transducer and activator of transcription 3 Source HGNC Symbol Acc HGNC 11364
G11	UPFH1132978	ENST00000449264.3	TNF	ENSG00000232810	tumor necrosis factor Source HGNC Symbol Acc HGNC 11892
G12	UPFH0306026	ENST00000611155.4	XBP1	ENSG00000100219	X-box binding protein 1 Source HGNC Symbol Acc HGNC 12801
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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