

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

## Human Fatty Acid Metabolism

Cat. no. 249955 UPHS-007ZA

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	ACAA1	ACAA2	ACAD10	ACAD11	ACAD9	ACADL	ACADM	ACADS	ACADS8	ACADVL	ACAT1	ACAT2
B	ACOT1	ACOT12	ACOT6	ACOT7	ACOT8	ACOT9	ACOX1	ACOX2	ACOX3	ACSBG1	ACSBG2	ACSL1
C	ACSL3	ACSL4	ACSL5	ACSL6	ACSM3	ACSM4	ACSM5	ALDH2	BDH1	BDH2	CPT1A	CPT1B
D	CPT1C	CPT2	CRAT	CROT	DECR1	DECR2	ECHS1	ECI2	EHHADH	FABP1	FABP2	FABP3
E	FABP4	FABP5	FABP6	FABP7	FASN	GCDH	GK	GK2	GPD1	GPD2	HADHA	HMGCL
F	HMGCS1	HMGCS2	LIPE	LPL	MCEE	MMUT	OXCT2	PECR	PPA1	PRKAA1	PRKAA2	PRKAB1
G	PRKAB2	PRKACA	PRKACB	PRKAG1	PRKAG2	PRKAG3	SLC27A1	SLC27A2	SLC27A3	SLC27A4	SLC27A5	SLC27A6
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	UPFH0503781	ENST00000411549.5	ACAA1	ENSG00000060971	acetyl-CoA acyltransferase 1 Source HGNC Symbol Acc HGNC 82
A02	UPFH0567027	ENST00000587994.5	ACAA2	ENSG00000167315	acetyl-CoA acyltransferase 2 Source HGNC Symbol Acc HGNC 83
A03	UPFH0312446	ENST00000455480.6	ACAD10	ENSG00000111271	acyl-CoA dehydrogenase family member 10 Source HGNC Symbol Acc HGNC 21597
A04	UPFH0015573	ENST00000487024.1	ACAD11	ENSG00000240303	acyl-CoA dehydrogenase family member 11 Source HGNC Symbol Acc HGNC 30211
A05	UPFH0457710	ENST00000511227.5	ACAD9	ENSG00000177646	acyl-CoA dehydrogenase family member 9 Source HGNC Symbol Acc HGNC 21497
A06	UPFH0539614	ENST00000482502.1	ACADL	ENSG00000115361	acyl-CoA dehydrogenase long chain Source HGNC Symbol Acc HGNC 88
A07	UPFH0171314	ENST00000525808.5	ACADM	ENSG00000117054	acyl-CoA dehydrogenase medium chain Source HGNC Symbol Acc HGNC 89
A08	UPFH0174930	ENST00000539690.1	ACADS	ENSG00000122971	acyl-CoA dehydrogenase short chain Source HGNC Symbol Acc HGNC 90
A09	UPFH0013750	ENST00000358776.6	ACADSB	ENSG00000196177	acyl-CoA dehydrogenase short/branched chain Source HGNC Symbol Acc HGNC 91
A10	UPFH0017990	ENST00000585203.6	ACADVL	ENSG00000072778	acyl-CoA dehydrogenase very long chain Source HGNC Symbol Acc HGNC 92
A11	UPFH0012637	ENST00000531853.5	ACAT1	ENSG00000075239	acetyl-CoA acetyltransferase 1 Source HGNC Symbol Acc HGNC 93
A12	UPFH0109564	ENST00000367048.4	ACAT2	ENSG00000120437	acetyl-CoA acetyltransferase 2 Source HGNC Symbol Acc HGNC 94
B01	UPFH0057679	ENST00000311148.9	ACOT1	ENSG00000184227	acyl-CoA thioesterase 1 Source HGNC Symbol Acc HGNC 33128
B02	UPFH0324820	ENST00000307624.8	ACOT12	ENSG00000172497	acyl-CoA thioesterase 12 Source HGNC Symbol Acc HGNC 24436
B03	UPFH0459323	ENST00000645972.1	ACOT6	ENSG00000205669	acyl-CoA thioesterase 6 Source HGNC Symbol Acc HGNC 33159
B04	UPFH0613297	ENST00000418124.5	ACOT7	ENSG00000097021	acyl-CoA thioesterase 7 Source HGNC Symbol Acc HGNC 24157
B05	UPFH0299923	ENST00000461272.5	ACOT8	ENSG00000101473	acyl-CoA thioesterase 8 Source HGNC Symbol Acc HGNC 15919
B06	UPFH0229477	ENST00000492081.1	ACOT9	ENSG00000123130	acyl-CoA thioesterase 9 Source HGNC Symbol Acc HGNC 17152
B07	UPFH0241138	ENST00000573078.5	ACOX1	ENSG00000161533	acyl-CoA oxidase 1 Source HGNC Symbol Acc HGNC 119
B08	UPFH1125774	ENST00000302819.10	ACOX2	ENSG00000168306	acyl-CoA oxidase 2 Source HGNC Symbol Acc HGNC 120
B09	UPFH0415465	ENST00000356406.10	ACOX3	ENSG00000087008	acyl-CoA oxidase 3, pristanoyl Source HGNC Symbol Acc HGNC 121
B10	UPFH0350339	ENST00000559707.5	ACSBG1	ENSG00000103740	acyl-CoA synthetase bubblegum family member 1 Source HGNC Symbol Acc HGNC 29567
B11	UPFH0416610	ENST00000587617.1	ACSBG2	ENSG00000130377	acyl-CoA synthetase bubblegum family member 2 Source HGNC Symbol Acc HGNC 24174
B12	UPFH0223681	ENST00000515030.5	ACSL1	ENSG00000151726	acyl-CoA synthetase long chain family member 1 Source HGNC Symbol Acc HGNC 3569
C01	UPFH1132212	ENST00000357430.8	ACSL3	ENSG00000123983	acyl-CoA synthetase long chain family member 3 Source HGNC Symbol Acc HGNC 3570
C02	UPFH1132213	ENST00000348502.10	ACSL4	ENSG00000068366	acyl-CoA synthetase long chain family member 4 Source HGNC Symbol Acc HGNC 3571
C03	UPFH1132214	ENST00000433418.5	ACSL5	ENSG00000197142	acyl-CoA synthetase long chain family member 5 Source HGNC Symbol Acc HGNC 16526
C04	UPFH0474100	ENST00000379246.5	ACSL6	ENSG00000164398	acyl-CoA synthetase long chain family member 6 Source HGNC Symbol Acc HGNC 16496
C05	UPFH0341480	ENST00000440284.6	ACSM3	ENSG00000005187	acyl-CoA synthetase medium chain family member 3 Source HGNC Symbol Acc HGNC 10522
C06	UPFH0118706	ENST00000533292.1	ACSM4	ENSG00000215009	acyl-CoA synthetase medium chain family member 4 Source HGNC Symbol Acc HGNC 32016
C07	UPFH0197746	ENST00000575070.1	ACSM5	ENSG00000183549	acyl-CoA synthetase medium chain family member 5 Source HGNC Symbol Acc HGNC 26060
C08	UPFH0365632	ENST00000549106.1	ALDH2	ENSG00000111275	aldehyde dehydrogenase 2 family member Source HGNC Symbol Acc HGNC 404
C09	UPFH0585799	ENST00000446746.5	BDH1	ENSG00000161267	3-hydroxybutyrate dehydrogenase 1 Source HGNC Symbol Acc HGNC 1027
C10	UPFH0596437	ENST00000296424.9	BDH2	ENSG00000164039	3-hydroxybutyrate dehydrogenase 2 Source HGNC Symbol Acc HGNC 32389
		ENST00000540		ENSG000000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFH0043897	367.5	CPT1A	110090	carnitine palmitoyltransferase 1A Source HGNC Symbol Acc HGNC 2328
C12	UPFH0183411	ENST00000395650.6	CPT1B	ENSG00000205560	carnitine palmitoyltransferase 1B Source HGNC Symbol Acc HGNC 2329
D01	UPFH0113137	ENST00000599023.5	CPT1C	ENSG00000169169	carnitine palmitoyltransferase 1C Source HGNC Symbol Acc HGNC 18540
D02	UPFH1132334	ENST00000636891.1	CPT2	ENSG00000157184	carnitine palmitoyltransferase 2 Source HGNC Symbol Acc HGNC 2330
D03	UPFH0095032	ENST00000458362.5	CRAT	ENSG00000095321	carnitine O-acetyltransferase Source HGNC Symbol Acc HGNC 2342
D04	UPFH0473807	ENST00000442291.1	CROT	ENSG00000005469	carnitine O-octanoyltransferase Source HGNC Symbol Acc HGNC 2366
D05	UPFH1124359	ENST00000524326.1	DECR1	ENSG00000104325	2,4-dienoyl-CoA reductase 1 Source HGNC Symbol Acc HGNC 2753
D06	UPFH0327396	ENST00000429116.1	DECR2	ENSG00000242612	2,4-dienoyl-CoA reductase 2 Source HGNC Symbol Acc HGNC 2754
D07	UPFH0223162	ENST00000368547.4	ECHS1	ENSG00000127884	enoyl-CoA hydratase, short chain 1 Source HGNC Symbol Acc HGNC 3151
D08	UPFH0345833	ENST00000380118.7	ECI2	ENSG00000198721	enoyl-CoA delta isomerase 2 Source HGNC Symbol Acc HGNC 14601
D09	UPFH0433081	ENST00000231887.8	EHHADH	ENSG00000113790	enoyl-CoA hydratase and 3-hydroxyacyl CoA dehydrogenase Source HGNC Symbol Acc HGNC 3247
D10	UPFH0465765	ENST00000295834.7	FABP1	ENSG00000163586	fatty acid binding protein 1 Source HGNC Symbol Acc HGNC 3555
D11	UPFH0366949	ENST00000274024.3	FABP2	ENSG00000145384	fatty acid binding protein 2 Source HGNC Symbol Acc HGNC 3556
D12	UPFH0313060	ENST00000373713.6	FABP3	ENSG00000121769	fatty acid binding protein 3 Source HGNC Symbol Acc HGNC 3557
E01	UPFH0038464	ENST00000256104.4	FABP4	ENSG00000170323	fatty acid binding protein 4 Source HGNC Symbol Acc HGNC 3559
E02	UPFH0238291	ENST00000396359.1	FABP5	ENSG00000164687	fatty acid binding protein 5 Source HGNC Symbol Acc HGNC 3560
E03	UPFH0580888	ENST00000523955.5	FABP6	ENSG00000170231	fatty acid binding protein 6 Source HGNC Symbol Acc HGNC 3561
E04	UPFH0217723	ENST00000368444.8	FABP7	ENSG00000164434	fatty acid binding protein 7 Source HGNC Symbol Acc HGNC 3562
E05	UPFH0422393	ENST00000635197.1	FASN	ENSG00000169710	fatty acid synthase Source HGNC Symbol Acc HGNC 3594
E06	UPFH0309992	ENST00000588905.5	GCDH	ENSG00000105607	glutaryl-CoA dehydrogenase Source HGNC Symbol Acc HGNC 4189
E07	UPFH0598917	ENST00000479048.5	GK	ENSG00000198814	glycerol kinase Source HGNC Symbol Acc HGNC 4289
E08	UPFH0137216	ENST00000358842.4	GK2	ENSG00000196475	glycerol kinase 2 Source HGNC Symbol Acc HGNC 4291
E09	UPFH0126857	ENST00000548152.1	GPD1	ENSG00000167588	glycerol-3-phosphate dehydrogenase 1 Source HGNC Symbol Acc HGNC 4455
E10	UPFH1132422	ENST00000310454.10	GPD2	ENSG00000115159	glycerol-3-phosphate dehydrogenase 2 Source HGNC Symbol Acc HGNC 4456
E11	UPFH0231829	ENST00000492433.2	HADHA	ENSG00000084754	hydroxyacyl-CoA dehydrogenase trifunctional multienzyme complex subunit alpha Source HGNC Symbol Acc HGNC 4801
E12	UPFH0158241	ENST00000513148.1	HMGCL	ENSG00000117305	3-hydroxy-3-methylglutaryl-CoA lyase Source HGNC Symbol Acc HGNC 5005
F01	UPFH0184133	ENST00000325110.11	HMGCS1	ENSG00000112972	3-hydroxy-3-methylglutaryl-CoA synthase 1 Source HGNC Symbol Acc HGNC 5007
F02	UPFH0279568	ENST00000472375.5	HMGCS2	ENSG00000134240	3-hydroxy-3-methylglutaryl-CoA synthase 2 Source HGNC Symbol Acc HGNC 5008
F03	UPFH0552904	ENST00000601189.1	LIPE	ENSG00000079435	lipase E, hormone sensitive type Source HGNC Symbol Acc HGNC 6621
F04	UPFH1132523	ENST00000311322.10	LPL	ENSG00000175445	lipoprotein lipase Source HGNC Symbol Acc HGNC 6677
F05	UPFH0457058	ENST00000244217.6	MCEE	ENSG00000124370	methylmalonyl-CoA epimerase Source HGNC Symbol Acc HGNC 16732
F06	UPFH0602895	ENST00000274813.4	MMUT	ENSG00000146085	methylmalonyl-CoA mutase Source HGNC Symbol Acc HGNC 7526
F07	UPFH1125991	ENST00000327582.5	OXCT2	ENSG00000198754	3-oxoacid CoA-transferase 2 Source HGNC Symbol Acc HGNC 18606
F08	UPFH0286682	ENST00000461330.5	PECR	ENSG00000115425	peroxisomal trans-2-enoyl-CoA reductase Source HGNC Symbol Acc HGNC 18281
F09	UPFH1132627	ENST00000373232.8	PPA1	ENSG00000180817	pyrophosphatase (inorganic) 1 Source HGNC Symbol Acc HGNC 9226
F10	UPFH0363221	ENST00000397128.6	PRKAA1	ENSG00000132356	protein kinase AMP-activated catalytic subunit alpha 1 Source HGNC Symbol Acc HGNC 9376

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFH0310374	ENST00000610361.1	PRKAA2	ENSG00000162409	protein kinase AMP-activated catalytic subunit alpha 2 Source HGNC Symbol Acc HGNC 9377
F12	UPFH0062531	ENST00000545223.1	PRKAB1	ENSG00000111725	protein kinase AMP-activated non-catalytic subunit beta 1 Source HGNC Symbol Acc HGNC 9378
G01	UPFH0607399	ENST00000474939.1	PRKAB2	ENSG00000131791	protein kinase AMP-activated non-catalytic subunit beta 2 Source HGNC Symbol Acc HGNC 9379
G02	UPFH0332354	ENST00000593092.1	PRKACA	ENSG00000072062	protein kinase cAMP-activated catalytic subunit alpha Source HGNC Symbol Acc HGNC 9380
G03	UPFH0554579	ENST00000470673.5	PRKACB	ENSG00000142875	protein kinase cAMP-activated catalytic subunit beta Source HGNC Symbol Acc HGNC 9381
G04	UPFH0066787	ENST00000548065.6	PRKAG1	ENSG00000181929	protein kinase AMP-activated non-catalytic subunit gamma 1 Source HGNC Symbol Acc HGNC 9385
G05	UPFH0382293	ENST00000287878.9	PRKAG2	ENSG00000106617	protein kinase AMP-activated non-catalytic subunit gamma 2 Source HGNC Symbol Acc HGNC 9386
G06	UPFH0385179	ENST00000490971.1	PRKAG3	ENSG00000115592	protein kinase AMP-activated non-catalytic subunit gamma 3 Source HGNC Symbol Acc HGNC 9387
G07	UPFH0338325	ENST00000600277.5	SLC27A1	ENSG00000130304	solute carrier family 27 member 1 Source HGNC Symbol Acc HGNC 10995
G08	UPFH0111755	ENST00000380902.8	SLC27A2	ENSG00000140284	solute carrier family 27 member 2 Source HGNC Symbol Acc HGNC 10996
G09	UPFH0440434	ENST00000271857.6	SLC27A3	ENSG00000143554	solute carrier family 27 member 3 Source HGNC Symbol Acc HGNC 10997
G10	UPFH1132683	ENST00000300456.5	SLC27A4	ENSG00000167114	solute carrier family 27 member 4 Source HGNC Symbol Acc HGNC 10998
G11	UPFH0570082	ENST00000263093.7	SLC27A5	ENSG00000083807	solute carrier family 27 member 5 Source HGNC Symbol Acc HGNC 10999
G12	UPFH0393879	ENST00000262462.9	SLC27A6	ENSG00000113396	solute carrier family 27 member 6 Source HGNC Symbol Acc HGNC 11000
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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