

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

## Human Amino Acid Metabolism II

Cat. no. 249955 UPHS-130ZA

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	AADAT	AASDHPPT	AASS	ABAT	AOC1	ACADM	ACADS	ACADSB	ACAT2	ADH5	ADSL	ADSS
B	AGXT	ALAS1	ALDH2	ALDH3B1	ALDH5A1	ALDH6A1	AMDHD1	AMT	AOC3	ASH1L	ASNS	ASPA
C	BBOX1	BCAT1	BCKDHB	BHMT	CHDH	CNDP1	COMT	DAO	DBH	DBT	DDC	DLD
D	DLST	DMGDH	ECHS1	FAH	FTCD	GAD2	GCAT	GCDH	GLDC	GNMT	GOT1	GPT
E	HADH	HADHB	HDC	HGD	HIBADH	HIBCH	HNMT	HPD	HSD17B10	IARS	MAOA	MCEE
F	MIF	MMUT	OGDH	PAH	PCCA	PDHA2	PHGDH	PIPOX	PLOD3	PNMT	PRDX6	PSAT1
G	PSPH	SARDH	SDS	SHMT2	SRR	TH	TMLHE	TPO	TYR	TYRP1	VAR52	BUD23
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	UPFH1124431	ENST00000515480.5	AADAT	ENSG00000109576	aminoadipate aminotransferase Source HGNC Symbol Acc HGNC 17929
A02	UPFH0252041	ENST00000525660.1	AASDHPPT	ENSG00000149313	aminoadipate-semialdehyde dehydrogenase-phosphopantetheinyl transferase Source HGNC Symbol Acc HGNC 14235
A03	UPFH0176374	ENST00000473553.5	AASS	ENSG00000008311	aminoadipate-semialdehyde synthase Source HGNC Symbol Acc HGNC 17366
A04	UPFH0246268	ENST00000565671.1	ABAT	ENSG00000183044	4-aminobutyrate aminotransferase Source HGNC Symbol Acc HGNC 23
A05	UPFH0274761	ENST00000360937.8	AOC1	ENSG00000002726	amine oxidase, copper containing 1 Source HGNC Symbol Acc HGNC 80
A06	UPFH0171314	ENST00000525808.5	ACADM	ENSG00000117054	acyl-CoA dehydrogenase medium chain Source HGNC Symbol Acc HGNC 89
A07	UPFH0174930	ENST00000539690.1	ACADS	ENSG00000122971	acyl-CoA dehydrogenase short chain Source HGNC Symbol Acc HGNC 90
A08	UPFH0013750	ENST00000358776.6	ACADSB	ENSG00000196177	acyl-CoA dehydrogenase short/branched chain Source HGNC Symbol Acc HGNC 91
A09	UPFH0109564	ENST00000367048.4	ACAT2	ENSG00000120437	acetyl-CoA acetyltransferase 2 Source HGNC Symbol Acc HGNC 94
A10	UPFH1132220	ENST00000626055.2	ADH5	ENSG00000197894	alcohol dehydrogenase 5 (class III), chi polypeptide Source HGNC Symbol Acc HGNC 253
A11	UPFH0125661	ENST00000216194.11	ADSL	ENSG00000239900	adenylosuccinate lyase Source HGNC Symbol Acc HGNC 291
A12	UPFH0056764	ENST00000366535.4	ADSS	ENSG00000035687	adenylosuccinate synthase Source HGNC Symbol Acc HGNC 292
B01	UPFH0280405	ENST00000476698.1	AGXT	ENSG00000172482	alanine--glyoxylate and serine--pyruvate aminotransferase Source HGNC Symbol Acc HGNC 341
B02	UPFH0230815	ENST00000493402.1	ALAS1	ENSG00000023330	5-aminolevulinic acid synthase 1 Source HGNC Symbol Acc HGNC 396
B03	UPFH0365632	ENST00000549106.1	ALDH2	ENSG00000111275	aldehyde dehydrogenase 2 family member Source HGNC Symbol Acc HGNC 404
B04	UPFH0330081	ENST00000614849.4	ALDH3B1	ENSG00000006534	aldehyde dehydrogenase 3 family member B1 Source HGNC Symbol Acc HGNC 410
B05	UPFH0022460	ENST00000348925.2	ALDH5A1	ENSG00000112294	aldehyde dehydrogenase 5 family member A1 Source HGNC Symbol Acc HGNC 408
B06	UPFH0543198	ENST00000554501.5	ALDH6A1	ENSG00000119711	aldehyde dehydrogenase 6 family member A1 Source HGNC Symbol Acc HGNC 7179
B07	UPFH0165005	ENST00000266736.7	AMDHD1	ENSG00000139344	amidohydrolase domain containing 1 Source HGNC Symbol Acc HGNC 28577
B08	UPFH0315163	ENST00000461210.1	AMT	ENSG00000145020	aminomethyltransferase Source HGNC Symbol Acc HGNC 473
B09	UPFH0477717	ENST00000592999.5	AOC3	ENSG00000131471	amine oxidase, copper containing 3 Source HGNC Symbol Acc HGNC 550
B10	UPFH1132242	ENST00000392403.8	ASH1L	ENSG00000116539	ASH1 like histone lysine methyltransferase Source HGNC Symbol Acc HGNC 19088
B11	UPFH0522170	ENST00000394308.8	ASNS	ENSG00000070669	asparagine synthetase (glutamine-hydrolyzing) Source HGNC Symbol Acc HGNC 753
B12	UPFH0263079	ENST00000571278.1	ASPA	ENSG00000108381	aspartoacylase Source HGNC Symbol Acc HGNC 756
C01	UPFH0127229	ENST00000528583.5	BBOX1	ENSG00000129151	gamma-butyrobetaine hydroxylase 1 Source HGNC Symbol Acc HGNC 964
C02	UPFH0326083	ENST00000544418.1	BCAT1	ENSG00000060982	branched chain amino acid transaminase 1 Source HGNC Symbol Acc HGNC 976
C03	UPFH0274954	ENST00000486968.1	BCKDHB	ENSG00000083123	branched chain keto acid dehydrogenase E1 subunit beta Source HGNC Symbol Acc HGNC 987
C04	UPFH0228197	ENST00000520703.1	BHMT	ENSG00000145692	betaine--homocysteine S-methyltransferase Source HGNC Symbol Acc HGNC 1047
C05	UPFH0114803	ENST00000481668.5	CHDH	ENSG00000016391	choline dehydrogenase Source HGNC Symbol Acc HGNC 24288
C06	UPFH0090119	ENST00000582365.1	CNDP1	ENSG00000150656	carnosine dipeptidase 1 Source HGNC Symbol Acc HGNC 20675
C07	UPFH0043531	ENST00000361682.10	COMT	ENSG00000093010	catechol-O-methyltransferase Source HGNC Symbol Acc HGNC 2228
C08	UPFH0591358	ENST00000551281.5	DAO	ENSG00000110887	D-amino acid oxidase Source HGNC Symbol Acc HGNC 2671
C09	UPFH0151477	ENST00000393056.7	DBH	ENSG00000123454	dopamine beta-hydroxylase Source HGNC Symbol Acc HGNC 2689
C10	UPFH0378453	ENST00000370131.3	DBT	ENSG00000137992	dihydroipoamide branched chain transacylase E2 Source HGNC Symbol Acc HGNC 2698
		ENST00000380		ENSG000000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFH0335012	984.4	DDC	132437	dopa decarboxylase Source HGNC Symbol Acc HGNC 2719
C12	UPFH1132362	ENST00000205402.10	DLD	ENSG00000091140	dihydrolipoamide dehydrogenase Source HGNC Symbol Acc HGNC 2898
D01	UPFH1132363	ENST00000334220.9	DLST	ENSG00000119689	dihydrolipoamide S-succinyltransferase Source HGNC Symbol Acc HGNC 2911
D02	UPFH0163052	ENST00000518477.5	DMGDH	ENSG00000132837	dimethylglycine dehydrogenase Source HGNC Symbol Acc HGNC 24475
D03	UPFH0223162	ENST00000368547.4	ECHS1	ENSG00000127884	enoyl-CoA hydratase, short chain 1 Source HGNC Symbol Acc HGNC 3151
D04	UPFH0112966	ENST00000261755.9	FAH	ENSG00000103876	fumarylacetoacetate hydrolase Source HGNC Symbol Acc HGNC 3579
D05	UPFH0248228	ENST00000397743.1	FTCD	ENSG00000160282	formimidoyltransferase cyclodeaminase Source HGNC Symbol Acc HGNC 3974
D06	UPFH0545872	ENST00000376261.8	GAD2	ENSG00000136750	glutamate decarboxylase 2 Source HGNC Symbol Acc HGNC 4093
D07	UPFH0006140	ENST00000451984.1	GCAT	ENSG00000100116	glycine C-acetyltransferase Source HGNC Symbol Acc HGNC 4188
D08	UPFH0309992	ENST00000588905.5	GCDH	ENSG00000105607	glutaryl-CoA dehydrogenase Source HGNC Symbol Acc HGNC 4189
D09	UPFH0170034	ENST00000321612.7	GLDC	ENSG00000178445	glycine decarboxylase Source HGNC Symbol Acc HGNC 4313
D10	UPFH0590725	ENST00000372808.4	GNMT	ENSG00000124713	glycine N-methyltransferase Source HGNC Symbol Acc HGNC 4415
D11	UPFH0515786	ENST00000471741.1	GOT1	ENSG00000120053	glutamic-oxaloacetic transaminase 1 Source HGNC Symbol Acc HGNC 4432
D12	UPFH0574724	ENST00000534702.5	GPT	ENSG00000167701	glutamic--pyruvic transaminase Source HGNC Symbol Acc HGNC 4552
E01	UPFH0108598	ENST00000640060.1	HADH	ENSG00000138796	hydroxyacyl-CoA dehydrogenase Source HGNC Symbol Acc HGNC 4799
E02	UPFH0186168	ENST00000537713.5	HADHB	ENSG00000138029	hydroxyacyl-CoA dehydrogenase trifunctional multienzyme complex subunit beta Source HGNC Symbol Acc HGNC 4803
E03	UPFH0397269	ENST00000558761.5	HDC	ENSG00000140287	histidine decarboxylase Source HGNC Symbol Acc HGNC 4855
E04	UPFH0325383	ENST00000283871.10	HGD	ENSG00000113924	homogentisate 1,2-dioxygenase Source HGNC Symbol Acc HGNC 4892
E05	UPFH0342437	ENST00000265395.7	HIBADH	ENSG00000106049	3-hydroxyisobutyrate dehydrogenase Source HGNC Symbol Acc HGNC 4907
E06	UPFH0063814	ENST00000359678.10	HIBCH	ENSG00000198130	3-hydroxyisobutyryl-CoA hydrolase Source HGNC Symbol Acc HGNC 4908
E07	UPFH0091478	ENST00000485653.1	HNMT	ENSG00000150540	histamine N-methyltransferase Source HGNC Symbol Acc HGNC 5028
E08	UPFH0145299	ENST00000543163.5	HPD	ENSG00000158104	4-hydroxyphenylpyruvate dioxygenase Source HGNC Symbol Acc HGNC 5147
E09	UPFH0332969	ENST00000375298.4	HSD17B10	ENSG00000072506	hydroxysteroid 17-beta dehydrogenase 10 Source HGNC Symbol Acc HGNC 4800
E10	UPFH0098312	ENST00000498025.1	IARS	ENSG00000196305	isoleucyl-tRNA synthetase Source HGNC Symbol Acc HGNC 5330
E11	UPFH0432299	ENST00000338702.3	MAOA	ENSG00000189221	monoamine oxidase A Source HGNC Symbol Acc HGNC 6833
E12	UPFH0457058	ENST00000244217.6	MCEE	ENSG00000124370	methylmalonyl-CoA epimerase Source HGNC Symbol Acc HGNC 16732
F01	UPFH1132548	ENST00000215754.8	MIF	ENSG00000240972	macrophage migration inhibitory factor Source HGNC Symbol Acc HGNC 7097
F02	UPFH0602895	ENST00000274813.4	MMUT	ENSG00000146085	methylmalonyl-CoA mutase Source HGNC Symbol Acc HGNC 7526
F03	UPFH0111093	ENST00000419661.5	OGDH	ENSG00000105953	oxoglutarate dehydrogenase Source HGNC Symbol Acc HGNC 8124
F04	UPFH0226992	ENST00000307000.7	PAH	ENSG00000171759	phenylalanine hydroxylase Source HGNC Symbol Acc HGNC 8582
F05	UPFH0404451	ENST00000376279.7	PCCA	ENSG00000175198	propionyl-CoA carboxylase subunit alpha Source HGNC Symbol Acc HGNC 8653
F06	UPFH0013049	ENST00000295266.5	PDHA2	ENSG00000163114	pyruvate dehydrogenase E1 alpha 2 subunit Source HGNC Symbol Acc HGNC 8807
F07	UPFH0384748	ENST00000641756.1	PHGDH	ENSG00000092621	phosphoglycerate dehydrogenase Source HGNC Symbol Acc HGNC 8923
F08	UPFH0251414	ENST00000577182.5	PIPOX	ENSG00000179761	pipecolic acid and sarcosine oxidase Source HGNC Symbol Acc HGNC 17804
F09	UPFH0299577	ENST00000421736.1	PLOD3	ENSG00000106397	procollagen-lysine,2-oxoglutarate 5-dioxygenase 3 Source HGNC Symbol Acc HGNC 9083
F10	UPFH0207197	ENST00000394246.1	PNMT	ENSG00000141744	phenylethanolamine N-methyltransferase Source HGNC Symbol Acc HGNC 9160

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFH1132836	ENST00000340385.6	PRDX6	ENSG00000117592	peroxiredoxin 6 Source HGNC Symbol Acc HGNC 16753
F12	UPFH0316229	ENST00000376588.4	PSAT1	ENSG00000135069	phosphoserine aminotransferase 1 Source HGNC Symbol Acc HGNC 19129
G01	UPFH0565670	ENST00000275605.8	PSPH	ENSG00000146733	phosphoserine phosphatase Source HGNC Symbol Acc HGNC 9577
G02	UPFH0072271	ENST00000422262.6	SARDH	ENSG00000123453	sarcosine dehydrogenase Source HGNC Symbol Acc HGNC 10536
G03	UPFH0485304	ENST00000546785.1	SDS	ENSG00000135094	serine dehydratase Source HGNC Symbol Acc HGNC 10691
G04	UPFH0221466	ENST00000556689.5	SHMT2	ENSG00000182199	serine hydroxymethyltransferase 2 Source HGNC Symbol Acc HGNC 10852
G05	UPFH0322291	ENST00000574987.1	SRR	ENSG00000167720	serine racemase Source HGNC Symbol Acc HGNC 14398
G06	UPFH0521066	ENST00000412076.1	TH	ENSG00000180176	tyrosine hydroxylase Source HGNC Symbol Acc HGNC 11782
G07	UPFH0065794	ENST00000487422.1	TMLHE	ENSG00000185973	trimethyllysine hydroxylase, epsilon Source HGNC Symbol Acc HGNC 18308
G08	UPFH1132980	ENST00000423320.5	TPO	ENSG00000115705	thyroid peroxidase Source HGNC Symbol Acc HGNC 12015
G09	UPFH0315343	ENST00000263321.6	TYR	ENSG00000077498	tyrosinase Source HGNC Symbol Acc HGNC 12442
G10	UPFH0362047	ENST00000381136.2	TYRP1	ENSG00000107165	tyrosinase related protein 1 Source HGNC Symbol Acc HGNC 12450
G11	UPFH0225759	ENST00000428017.5	VAR2	ENSG00000137411	valyl-tRNA synthetase 2, mitochondrial Source HGNC Symbol Acc HGNC 21642
G12	UPFH0026375	ENST00000430446.2	BUD23	ENSG00000071462	BUD23, rRNA methyltransferase and ribosome maturation factor Source HGNC Symbol Acc HGNC 16405
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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