

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

## Human Drug Metabolism: Phase I Enzymes

Cat. no. 249955 UPHS-068ZA

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	AADAC	ADH1A	ADH1B	ADH1C	ADH4	ADH5	ADH6	ADH7	ALDH1A1	ALDH1A2	ALDH1A3	ALDH1B1
B	ALDH2	ALDH3A1	ALDH3A2	ALDH3B1	ALDH3B2	ALDH4A1	ALDH5A1	ALDH6A1	ALDH7A1	ALDH8A1	ALDH9A1	CEL
C	CYP11A1	CYP11B1	CYP11B2	CYP17A1	CYP19A1	CYP1A1	CYP1A2	CYP1B1	CYP21A2	CYP24A1	CYP26A1	CYP26B1
D	CYP26C1	CYP27A1	CYP27B1	CYP2A13	CYP2B6	CYP2C18	CYP2C19	CYP2C8	CYP2C9	CYP2D6	CYP2E1	CYP2F1
E	CYP2R1	CYP2S1	CYP2W1	CYP3A4	CYP3A43	CYP3A5	CYP3A7	CYP4A11	CYP4A22	CYP4B1	CYP4F11	CYP4F12
F	CYP4F2	CYP4F3	CYP4F8	CYP7A1	CYP7B1	CYP8B1	DHRS2	DPYD	ESD	FMO1	FMO2	FMO3
G	FMO4	FMO5	GZMA	GZMB	HSD17B10	MAOA	MAOB	PTGS1	PTGS2	UCHL1	UCHL3	XDH
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	UPFH0510376	ENST00000488869.1	AADAC	ENSG00000114771	arylacetamide deacetylase Source HGNC Symbol Acc HGNC 17
A02	UPFH0025660	ENST00000511656.1	ADH1A	ENSG00000187758	alcohol dehydrogenase 1A (class I), alpha polypeptide Source HGNC Symbol Acc HGNC 249
A03	UPFH0125734	ENST00000305046.13	ADH1B	ENSG00000196616	alcohol dehydrogenase 1B (class I), beta polypeptide Source HGNC Symbol Acc HGNC 250
A04	UPFH0154565	ENST00000505942.2	ADH1C	ENSG00000248144	alcohol dehydrogenase 1C (class I), gamma polypeptide Source HGNC Symbol Acc HGNC 251
A05	UPFH0385430	ENST00000504894.1	ADH4	ENSG00000198099	alcohol dehydrogenase 4 (class II), pi polypeptide Source HGNC Symbol Acc HGNC 252
A06	UPFH1132220	ENST00000626055.2	ADH5	ENSG00000197894	alcohol dehydrogenase 5 (class III), chi polypeptide Source HGNC Symbol Acc HGNC 253
A07	UPFH0445569	ENST00000507484.5	ADH6	ENSG00000172955	alcohol dehydrogenase 6 (class V) Source HGNC Symbol Acc HGNC 255
A08	UPFH0115568	ENST00000482593.5	ADH7	ENSG00000196344	alcohol dehydrogenase 7 (class IV), mu or sigma polypeptide Source HGNC Symbol Acc HGNC 256
A09	UPFH0409683	ENST00000482210.5	ALDH1A1	ENSG00000165092	aldehyde dehydrogenase 1 family member A1 Source HGNC Symbol Acc HGNC 402
A10	UPFH0040043	ENST00000347587.7	ALDH1A2	ENSG00000128918	aldehyde dehydrogenase 1 family member A2 Source HGNC Symbol Acc HGNC 15472
A11	UPFH0310463	ENST00000329841.10	ALDH1A3	ENSG00000184254	aldehyde dehydrogenase 1 family member A3 Source HGNC Symbol Acc HGNC 409
A12	UPFH0016073	ENST00000377698.4	ALDH1B1	ENSG00000137124	aldehyde dehydrogenase 1 family member B1 Source HGNC Symbol Acc HGNC 407
B01	UPFH0365632	ENST00000549106.1	ALDH2	ENSG00000111275	aldehyde dehydrogenase 2 family member Source HGNC Symbol Acc HGNC 404
B02	UPFH0615200	ENST00000395555.7	ALDH3A1	ENSG00000108602	aldehyde dehydrogenase 3 family member A1 Source HGNC Symbol Acc HGNC 405
B03	UPFH0497126	ENST00000630662.2	ALDH3A2	ENSG00000072210	aldehyde dehydrogenase 3 family member A2 Source HGNC Symbol Acc HGNC 403
B04	UPFH0330081	ENST00000614849.4	ALDH3B1	ENSG00000006534	aldehyde dehydrogenase 3 family member B1 Source HGNC Symbol Acc HGNC 410
B05	UPFH0531738	ENST00000525827.5	ALDH3B2	ENSG00000132746	aldehyde dehydrogenase 3 family member B2 Source HGNC Symbol Acc HGNC 411
B06	UPFH0278359	ENST00000375341.8	ALDH4A1	ENSG00000159423	aldehyde dehydrogenase 4 family member A1 Source HGNC Symbol Acc HGNC 406
B07	UPFH0022460	ENST00000348925.2	ALDH5A1	ENSG00000112294	aldehyde dehydrogenase 5 family member A1 Source HGNC Symbol Acc HGNC 408
B08	UPFH0543198	ENST00000554501.5	ALDH6A1	ENSG00000119711	aldehyde dehydrogenase 6 family member A1 Source HGNC Symbol Acc HGNC 7179
B09	UPFH0573058	ENST00000409134.8	ALDH7A1	ENSG00000164904	aldehyde dehydrogenase 7 family member A1 Source HGNC Symbol Acc HGNC 877
B10	UPFH0087073	ENST00000367845.6	ALDH8A1	ENSG00000118514	aldehyde dehydrogenase 8 family member A1 Source HGNC Symbol Acc HGNC 15471
B11	UPFH0269239	ENST00000471457.1	ALDH9A1	ENSG00000143149	aldehyde dehydrogenase 9 family member A1 Source HGNC Symbol Acc HGNC 412
B12	UPFH0181032	ENST00000372080.6	CEL	ENSG00000170835	carboxyl ester lipase Source HGNC Symbol Acc HGNC 1848
C01	UPFH0490188	ENST0000056674.5	CYP11A1	ENSG00000140459	cytochrome P450 family 11 subfamily A member 1 Source HGNC Symbol Acc HGNC 2590
C02	UPFH0111517	ENST00000314111.4	CYP11B1	ENSG00000160882	cytochrome P450 family 11 subfamily B member 1 Source HGNC Symbol Acc HGNC 2591
C03	UPFH0295836	ENST00000323110.2	CYP11B2	ENSG00000179142	cytochrome P450 family 11 subfamily B member 2 Source HGNC Symbol Acc HGNC 2592
C04	UPFH0464356	ENST00000638971.1	CYP17A1	ENSG00000148795	cytochrome P450 family 17 subfamily A member 1 Source HGNC Symbol Acc HGNC 2593
C05	UPFH0371849	ENST00000439712.6	CYP19A1	ENSG00000137869	cytochrome P450 family 19 subfamily A member 1 Source HGNC Symbol Acc HGNC 2594
C06	UPFH0157953	ENST00000379727.8	CYP1A1	ENSG00000140465	cytochrome P450 family 1 subfamily A member 1 Source HGNC Symbol Acc HGNC 2595
C07	UPFH0144678	ENST00000343932.5	CYP1A2	ENSG00000140505	cytochrome P450 family 1 subfamily A member 2 Source HGNC Symbol Acc HGNC 2596
C08	UPFH0402095	ENST00000491456.1	CYP1B1	ENSG00000138061	cytochrome P450 family 1 subfamily B member 1 Source HGNC Symbol Acc HGNC 2597
C09	UPFH1139632	ENST00000466879.5	CYP21A2	ENSG00000231852	cytochrome P450 family 21 subfamily A member 2 Source HGNC Symbol Acc HGNC 2600
C10	UPFH0337938	ENST00000487593.1	CYP24A1	ENSG00000019186	cytochrome P450 family 24 subfamily A member 1 Source HGNC Symbol Acc HGNC 2602
		ENST00000224		ENSG000000	cytochrome P450 family 26 subfamily A member 1 Source HGNC Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFH0508662	356.5	CYP26A1	095596	HGNC 2603
C12	UPFH0562614	ENST00000001146.6	CYP26B1	ENSG00000003137	cytochrome P450 family 26 subfamily B member 1 Source HGNC Symbol Acc HGNC 20581
D01	UPFH0432311	ENST000000651965.1	CYP26C1	ENSG000000187553	cytochrome P450 family 26 subfamily C member 1 Source HGNC Symbol Acc HGNC 20577
D02	UPFH0614946	ENST00000466602.1	CYP27A1	ENSG000000135929	cytochrome P450 family 27 subfamily A member 1 Source HGNC Symbol Acc HGNC 2605
D03	UPFH0185932	ENST00000546567.5	CYP27B1	ENSG000000111012	cytochrome P450 family 27 subfamily B member 1 Source HGNC Symbol Acc HGNC 2606
D04	UPFH0110965	ENST00000330436.3	CYP2A13	ENSG000000197838	cytochrome P450 family 2 subfamily A member 13 Source HGNC Symbol Acc HGNC 2608
D05	UPFH0456289	ENST00000597612.1	CYP2B6	ENSG000000197408	cytochrome P450 family 2 subfamily B member 6 Source HGNC Symbol Acc HGNC 2615
D06	UPFH0533813	ENST00000285979.11	CYP2C18	ENSG000000108242	cytochrome P450 family 2 subfamily C member 18 Source HGNC Symbol Acc HGNC 2620
D07	UPFH0155901	ENST00000371321.9	CYP2C19	ENSG000000165841	cytochrome P450 family 2 subfamily C member 19 Source HGNC Symbol Acc HGNC 2621
D08	UPFH0490550	ENST00000628935.1	CYP2C8	ENSG000000138115	cytochrome P450 family 2 subfamily C member 8 Source HGNC Symbol Acc HGNC 2622
D09	UPFH0408357	ENST00000473496.1	CYP2C9	ENSG000000138109	cytochrome P450 family 2 subfamily C member 9 Source HGNC Symbol Acc HGNC 2623
D10	UPFH1124262	ENST00000645361.2	CYP2D6	ENSG000000100197	cytochrome P450 family 2 subfamily D member 6 Source HGNC Symbol Acc HGNC 2625
D11	UPFH0106530	ENST00000421586.5	CYP2E1	ENSG000000130649	cytochrome P450 family 2 subfamily E member 1 Source HGNC Symbol Acc HGNC 2631
D12	UPFH0131393	ENST00000331105.7	CYP2F1	ENSG000000197446	cytochrome P450 family 2 subfamily F member 1 Source HGNC Symbol Acc HGNC 2632
E01	UPFH0152703	ENST00000525015.1	CYP2R1	ENSG000000186104	cytochrome P450 family 2 subfamily R member 1 Source HGNC Symbol Acc HGNC 20580
E02	UPFH0367461	ENST00000595590.1	CYP2S1	ENSG000000167600	cytochrome P450 family 2 subfamily S member 1 Source HGNC Symbol Acc HGNC 15654
E03	UPFH0487089	ENST00000340150.10	CYP2W1	ENSG000000073067	cytochrome P450 family 2 subfamily W member 1 Source HGNC Symbol Acc HGNC 20243
E04	UPFH0526520	ENST00000354593.6	CYP3A4	ENSG000000160868	cytochrome P450 family 3 subfamily A member 4 Source HGNC Symbol Acc HGNC 2637
E05	UPFH0518954	ENST00000463915.5	CYP3A43	ENSG000000021461	cytochrome P450 family 3 subfamily A member 43 Source HGNC Symbol Acc HGNC 17450
E06	UPFH0069641	ENST00000469622.5	CYP3A5	ENSG000000106258	cytochrome P450 family 3 subfamily A member 5 Source HGNC Symbol Acc HGNC 2638
E07	UPFH0599359	ENST00000498080.1	CYP3A7	ENSG000000160870	cytochrome P450 family 3 subfamily A member 7 Source HGNC Symbol Acc HGNC 2640
E08	UPFH0132000	ENST00000475477.5	CYP4A11	ENSG000000187048	cytochrome P450 family 4 subfamily A member 11 Source HGNC Symbol Acc HGNC 2642
E09	UPFH0137045	ENST00000371890.7	CYP4A22	ENSG000000162365	cytochrome P450 family 4 subfamily A member 22 Source HGNC Symbol Acc HGNC 20575
E10	UPFH0117470	ENST00000464439.6	CYP4B1	ENSG000000142973	cytochrome P450 family 4 subfamily B member 1 Source HGNC Symbol Acc HGNC 2644
E11	UPFH0197693	ENST00000620614.4	CYP4F11	ENSG000000171903	cytochrome P450 family 4 subfamily F member 11 Source HGNC Symbol Acc HGNC 13265
E12	UPFH0376717	ENST00000548237.5	CYP4F12	ENSG000000186204	cytochrome P450 family 4 subfamily F member 12 Source HGNC Symbol Acc HGNC 18857
F01	UPFH0211283	ENST00000392846.7	CYP4F2	ENSG000000186115	cytochrome P450 family 4 subfamily F member 2 Source HGNC Symbol Acc HGNC 2645
F02	UPFH0138156	ENST00000587360.1	CYP4F3	ENSG000000186529	cytochrome P450 family 4 subfamily F member 3 Source HGNC Symbol Acc HGNC 2646
F03	UPFH0316683	ENST00000589927.6	CYP4F8	ENSG000000186526	cytochrome P450 family 4 subfamily F member 8 Source HGNC Symbol Acc HGNC 2648
F04	UPFH0370331	ENST00000301645.4	CYP7A1	ENSG000000167910	cytochrome P450 family 7 subfamily A member 1 Source HGNC Symbol Acc HGNC 2651
F05	UPFH0193665	ENST00000523954.1	CYP7B1	ENSG000000172817	cytochrome P450 family 7 subfamily B member 1 Source HGNC Symbol Acc HGNC 2652
F06	UPFH0422637	ENST00000437102.1	CYP8B1	ENSG000000180432	cytochrome P450 family 8 subfamily B member 1 Source HGNC Symbol Acc HGNC 2653
F07	UPFH0184538	ENST00000556701.5	DHRS2	ENSG000000100867	dehydrogenase/reductase 2 Source HGNC Symbol Acc HGNC 18349
F08	UPFH0417110	ENST00000370192.7	DPYD	ENSG000000188641	dihydropyrimidine dehydrogenase Source HGNC Symbol Acc HGNC 3012
F09	UPFH0409479	ENST00000412582.5	ESD	ENSG000000139684	esterase D Source HGNC Symbol Acc HGNC 3465
F10	UPFH0518351	ENST00000354841.4	FMO1	ENSG000000010932	flavin containing monooxygenase 1 Source HGNC Symbol Acc HGNC 3769

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFH0590482	ENST00000529935.5	FMO2	ENSG00000094963	flavin containing monoxygenase 2 Source HGNC Symbol Acc HGNC 3770
F12	UPFH0419632	ENST00000530212.5	FMO3	ENSG00000007933	flavin containing monoxygenase 3 Source HGNC Symbol Acc HGNC 3771
G01	UPFH0497436	ENST00000480136.1	FMO4	ENSG00000076258	flavin containing monoxygenase 4 Source HGNC Symbol Acc HGNC 3772
G02	UPFH0089195	ENST00000619062.1	FMO5	ENSG000000131781	flavin containing monoxygenase 5 Source HGNC Symbol Acc HGNC 3773
G03	UPFH0459336	ENST00000274306.7	GZMA	ENSG000000145649	granzyme A Source HGNC Symbol Acc HGNC 4708
G04	UPFH0018541	ENST00000526004.1	GZMB	ENSG000000100453	granzyme B Source HGNC Symbol Acc HGNC 4709
G05	UPFH0332969	ENST00000375298.4	HSD17B10	ENSG000000072506	hydroxysteroid 17-beta dehydrogenase 10 Source HGNC Symbol Acc HGNC 4800
G06	UPFH0432299	ENST00000338702.3	MAOA	ENSG000000189221	monoamine oxidase A Source HGNC Symbol Acc HGNC 6833
G07	UPFH0020129	ENST00000378069.5	MAOB	ENSG000000069535	monoamine oxidase B Source HGNC Symbol Acc HGNC 6834
G08	UPFH0450481	ENST00000619306.5	PTGS1	ENSG000000095303	prostaglandin-endoperoxide synthase 1 Source HGNC Symbol Acc HGNC 9604
G09	UPFH1132642	ENST00000367468.10	PTGS2	ENSG000000073756	prostaglandin-endoperoxide synthase 2 Source HGNC Symbol Acc HGNC 9605
G10	UPFH0452704	ENST00000472501.5	UCHL1	ENSG000000154277	ubiquitin C-terminal hydrolase L1 Source HGNC Symbol Acc HGNC 12513
G11	UPFH0372708	ENST00000377595.7	UCHL3	ENSG000000118939	ubiquitin C-terminal hydrolase L3 Source HGNC Symbol Acc HGNC 12515
G12	UPFH0207114	ENST00000379416.4	XDH	ENSG000000158125	xanthine dehydrogenase Source HGNC Symbol Acc HGNC 12805
H01	UPFH1132936	ENST00000646664.1	ACTB	ENSG000000075624	actin beta Source HGNC Symbol Acc HGNC 132
H02	UPFH1132937	ENST00000544417.5	B2M	ENSG000000166710	beta-2-microglobulin Source HGNC Symbol Acc HGNC 914
H03	UPFH1132938	ENST00000229239.10	GAPDH	ENSG000000111640	glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141
H04	UPFH1132939	ENST00000298556.8	HPRT1	ENSG000000165704	hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157
H05	UPFH1132941	ENST00000392514.9	RPLP0	ENSG000000089157	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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