

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

## Human Autophagy

Cat. no. 249955 UPHS-084ZA

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	AKT1	AMBRA1	APP	ATG10	ATG12	ATG16L1	ATG16L2	ATG3	ATG4A	ATG4B	ATG4C	ATG4D
B	ATG5	ATG7	ATG9A	ATG9B	BAD	BAK1	BAX	BCL2	BCL2L1	BECN1	BID	BNIP3
C	CASP3	CASP8	CDKN1B	CDKN2A	CLN3	CTSB	CTSD	CTSS	CXCR4	DAPK1	DRAM1	DRAM2
D	EIF2AK3	EIF4G1	ESR1	FADD	FAS	GAA	GABARAP	GABARAPL1	GABARAPL2	HDAC1	HDAC6	HGS
E	HSP90AA1	HSPA8	HTT	IFNG	IGF1	INS	IRGM	LAMP1	MAP1LC3A	MAP1LC3B	MAPK14	MAPK8
F	MTOR	NFKB1	NPC1	PIK3C3	PIK3CG	PIK3R4	PRKAA1	PTEN	RAB24	RB1	RGS19	RPS6KB1
G	SNCA	SQSTM1	TGFB1	TGM2	TMEM74	TNF	TNFSF10	TP53	ULK1	ULK2	UVRAG	WIP1
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	UPFH0453992	ENST00000555528.5	AKT1	ENSG00000142208	AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391
A02	UPFH0204153	ENST00000314845.7	AMBRA1	ENSG00000110497	autophagy and beclin 1 regulator 1 Source HGNC Symbol Acc HGNC 25990
A03	UPFH1132238	ENST00000346798.8	APP	ENSG00000142192	amyloid beta precursor protein Source HGNC Symbol Acc HGNC 620
A04	UPFH1132247	ENST00000513634.1	ATG10	ENSG00000152348	autophagy related 10 Source HGNC Symbol Acc HGNC 20315
A05	UPFH0095132	ENST00000513322.5	ATG12	ENSG00000145782	autophagy related 12 Source HGNC Symbol Acc HGNC 588
A06	UPFH0012337	ENST00000392021.7	ATG16L1	ENSG00000085978	autophagy related 16 like 1 Source HGNC Symbol Acc HGNC 21498
A07	UPFH1132248	ENST00000541367.5	ATG16L2	ENSG00000168010	autophagy related 16 like 2 Source HGNC Symbol Acc HGNC 25464
A08	UPFH0544689	ENST00000283290.9	ATG3	ENSG00000144848	autophagy related 3 Source HGNC Symbol Acc HGNC 20962
A09	UPFH1132249	ENST00000372232.8	ATG4A	ENSG00000101844	autophagy related 4A cysteine peptidase Source HGNC Symbol Acc HGNC 16489
A10	UPFH1132930	ENST00000405546.7	ATG4B	ENSG00000168397	autophagy related 4B cysteine peptidase Source HGNC Symbol Acc HGNC 20790
A11	UPFH0236091	ENST00000371120.7	ATG4C	ENSG00000125703	autophagy related 4C cysteine peptidase Source HGNC Symbol Acc HGNC 16040
A12	UPFH1132250	ENST00000309469.9	ATG4D	ENSG00000130734	autophagy related 4D cysteine peptidase Source HGNC Symbol Acc HGNC 20789
B01	UPFH1132251	ENST00000635758.2	ATG5	ENSG00000057663	autophagy related 5 Source HGNC Symbol Acc HGNC 589
B02	UPFH0133269	ENST00000354449.7	ATG7	ENSG00000197548	autophagy related 7 Source HGNC Symbol Acc HGNC 16935
B03	UPFH1132863	ENST00000439812.5	ATG9A	ENSG00000198925	autophagy related 9A Source HGNC Symbol Acc HGNC 22408
B04	UPFH1132899	ENST00000639579.1	ATG9B	ENSG00000181652	autophagy related 9B Source HGNC Symbol Acc HGNC 21899
B05	UPFH0437748	ENST00000394532.7	BAD	ENSG00000002330	BCL2 associated agonist of cell death Source HGNC Symbol Acc HGNC 936
B06	UPFH1132266	ENST00000360661.9	BAK1	ENSG00000030110	BCL2 antagonist/killer 1 Source HGNC Symbol Acc HGNC 949
B07	UPFH0540159	ENST00000293288.12	BAX	ENSG00000087088	BCL2 associated X, apoptosis regulator Source HGNC Symbol Acc HGNC 959
B08	UPFH1132900	ENST00000333681.5	BCL2	ENSG00000171791	BCL2, apoptosis regulator Source HGNC Symbol Acc HGNC 990
B09	UPFH1132271	ENST00000376062.6	BCL2L1	ENSG00000171552	BCL2 like 1 Source HGNC Symbol Acc HGNC 992
B10	UPFH0102826	ENST00000361523.8	BECN1	ENSG00000126581	beclin 1 Source HGNC Symbol Acc HGNC 1034
B11	UPFH0184066	ENST00000622694.4	BID	ENSG00000015475	BH3 interacting domain death agonist Source HGNC Symbol Acc HGNC 1050
B12	UPFH0140616	ENST00000633835.1	BNIP3	ENSG00000176171	BCL2 interacting protein 3 Source HGNC Symbol Acc HGNC 1084
C01	UPFH1132892	ENST00000523916.5	CASP3	ENSG00000164305	caspase 3 Source HGNC Symbol Acc HGNC 1504
C02	UPFH0522971	ENST00000264275.9	CASP8	ENSG00000064012	caspase 8 Source HGNC Symbol Acc HGNC 1509
C03	UPFH1132964	ENST00000228872.9	CDKN1B	ENSG00000111276	cyclin dependent kinase inhibitor 1B Source HGNC Symbol Acc HGNC 1785
C04	UPFH0246593	ENST00000494262.5	CDKN2A	ENSG00000147889	cyclin dependent kinase inhibitor 2A Source HGNC Symbol Acc HGNC 1787
C05	UPFH0330668	ENST00000359984.12	CLN3	ENSG00000188603	CLN3, battenin Source HGNC Symbol Acc HGNC 2074
C06	UPFH1132795	ENST00000345125.7	CTSB	ENSG00000164733	cathepsin B Source HGNC Symbol Acc HGNC 2527
C07	UPFH1132343	ENST00000637815.1	CTSD	ENSG00000117984	cathepsin D Source HGNC Symbol Acc HGNC 2529
C08	UPFH1132344	ENST00000368985.8	CTSS	ENSG00000163131	cathepsin S Source HGNC Symbol Acc HGNC 2545
C09	UPFH0570418	ENST00000241393.3	CXCR4	ENSG00000121966	C-X-C motif chemokine receptor 4 Source HGNC Symbol Acc HGNC 2561
C10	UPFH1132354	ENST00000408954.8	DAPK1	ENSG00000196730	death associated protein kinase 1 Source HGNC Symbol Acc HGNC 2674
		ENST00000258		ENSG000000	DNA damage regulated autophagy modulator 1 Source HGNC Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFH1132368	534.13	DRAM1	136048	HGNC 25645
C12	UPFH1132369	ENST00000539140.5	DRAM2	ENSG00000156171	DNA damage regulated autophagy modulator 2 Source HGNC Symbol Acc HGNC 28769
D01	UPFH1132382	ENST00000419748.6	EIF2AK3	ENSG00000172071	eukaryotic translation initiation factor 2 alpha kinase 3 Source HGNC Symbol Acc HGNC 3255
D02	UPFH0049817	ENST00000342981.8	EIF4G1	ENSG00000114867	eukaryotic translation initiation factor 4 gamma 1 Source HGNC Symbol Acc HGNC 3296
D03	UPFH0599047	ENST00000206249.7	ESR1	ENSG00000091831	estrogen receptor 1 Source HGNC Symbol Acc HGNC 3467
D04	UPFH1132906	ENST00000301838.4	FADD	ENSG00000168040	Fas associated via death domain Source HGNC Symbol Acc HGNC 3573
D05	UPFH1132395	ENST00000357339.6	FAS	ENSG00000026103	Fas cell surface death receptor Source HGNC Symbol Acc HGNC 11920
D06	UPFH1132409	ENST00000570803.5	GAA	ENSG00000171298	glucosidase alpha, acid Source HGNC Symbol Acc HGNC 4065
D07	UPFH1132410	ENST00000302386.10	GABARAP	ENSG00000170296	GABA type A receptor-associated protein Source HGNC Symbol Acc HGNC 4067
D08	UPFH1132411	ENST00000266458.10	GABARAPL1	ENSG00000139112	GABA type A receptor associated protein like 1 Source HGNC Symbol Acc HGNC 4068
D09	UPFH1132412	ENST00000565057.5	GABARAPL2	ENSG00000034713	GABA type A receptor associated protein like 2 Source HGNC Symbol Acc HGNC 13291
D10	UPFH1132434	ENST00000373548.8	HDAC1	ENSG00000116478	histone deacetylase 1 Source HGNC Symbol Acc HGNC 4852
D11	UPFH0614515	ENST00000334136.10	HDAC6	ENSG00000094631	histone deacetylase 6 Source HGNC Symbol Acc HGNC 14064
D12	UPFH1132446	ENST00000571518.5	HGS	ENSG00000185359	hepatocyte growth factor-regulated tyrosine kinase substrate Source HGNC Symbol Acc HGNC 4897
E01	UPFH0292880	ENST00000334701.11	HSP90AA1	ENSG00000080824	heat shock protein 90 alpha family class A member 1 Source HGNC Symbol Acc HGNC 5253
E02	UPFH0509415	ENST00000453788.6	HSPA8	ENSG00000109971	heat shock protein family A (Hsp70) member 8 Source HGNC Symbol Acc HGNC 5241
E03	UPFH0432604	ENST00000355072.10	HTT	ENSG00000197386	huntingtin Source HGNC Symbol Acc HGNC 4851
E04	UPFH1132473	ENST00000229135.4	IFNG	ENSG00000111537	interferon gamma Source HGNC Symbol Acc HGNC 5438
E05	UPFH0229443	ENST00000337514.10	IGF1	ENSG00000017427	insulin like growth factor 1 Source HGNC Symbol Acc HGNC 5464
E06	UPFH1132488	ENST00000381330.4	INS	ENSG00000254647	insulin Source HGNC Symbol Acc HGNC 6081
E07	UPFH0069624	ENST00000522154.1	IRGM	ENSG00000237693	immunity related GTPase M Source HGNC Symbol Acc HGNC 29597
E08	UPFH1132516	ENST00000332556.5	LAMP1	ENSG00000185896	lysosomal associated membrane protein 1 Source HGNC Symbol Acc HGNC 6499
E09	UPFH0546028	ENST00000374837.7	MAP1LC3A	ENSG00000101460	microtubule associated protein 1 light chain 3 alpha Source HGNC Symbol Acc HGNC 6838
E10	UPFH0102893	ENST00000570189.5	MAP1LC3B	ENSG00000140941	microtubule associated protein 1 light chain 3 beta Source HGNC Symbol Acc HGNC 13352
E11	UPFH0068247	ENST00000229795.7	MAPK14	ENSG00000112062	mitogen-activated protein kinase 14 Source HGNC Symbol Acc HGNC 6876
E12	UPFH1132535	ENST00000374179.8	MAPK8	ENSG00000107643	mitogen-activated protein kinase 8 Source HGNC Symbol Acc HGNC 6881
F01	UPFH1132560	ENST00000361445.8	MTOR	ENSG00000198793	mechanistic target of rapamycin kinase Source HGNC Symbol Acc HGNC 3942
F02	UPFH1132828	ENST00000226574.9	NFKB1	ENSG00000109320	nuclear factor kappa B subunit 1 Source HGNC Symbol Acc HGNC 7794
F03	UPFH1132596	ENST00000269228.10	NPC1	ENSG00000141458	NPC intracellular cholesterol transporter 1 Source HGNC Symbol Acc HGNC 7897
F04	UPFH1132623	ENST00000262039.9	PIK3C3	ENSG00000078142	phosphatidylinositol 3-kinase catalytic subunit type 3 Source HGNC Symbol Acc HGNC 8974
F05	UPFH0562261	ENST00000473541.5	PIK3CG	ENSG00000105851	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit gamma Source HGNC Symbol Acc HGNC 8978
F06	UPFH1132624	ENST00000356763.8	PIK3R4	ENSG00000196455	phosphoinositide-3-kinase regulatory subunit 4 Source HGNC Symbol Acc HGNC 8982
F07	UPFH0363221	ENST00000397128.6	PRKAA1	ENSG00000132356	protein kinase AMP-activated catalytic subunit alpha 1 Source HGNC Symbol Acc HGNC 9376
F08	UPFH1132982	ENST00000371953.8	PTEN	ENSG00000171862	phosphatase and tensin homolog Source HGNC Symbol Acc HGNC 9588
F09	UPFH0071541	ENST00000393611.6	RAB24	ENSG00000169228	RAB24, member RAS oncogene family Source HGNC Symbol Acc HGNC 9765
F10	UPFH0001483	ENST00000267163.5	RB1	ENSG00000139687	RB transcriptional corepressor 1 Source HGNC Symbol Acc HGNC 9884

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFH1132861	ENST00000395042.2	RGS19	ENSG00000171700	regulator of G protein signaling 19 Source HGNC Symbol Acc HGNC 13735
F12	UPFH1132665	ENST00000406116.7	RPS6KB1	ENSG00000108443	ribosomal protein S6 kinase B1 Source HGNC Symbol Acc HGNC 10436
G01	UPFH0584453	ENST00000394991.7	SNCA	ENSG00000145335	synuclein alpha Source HGNC Symbol Acc HGNC 11138
G02	UPFH1132695	ENST00000510187.5	SQSTM1	ENSG00000161011	sequestosome 1 Source HGNC Symbol Acc HGNC 11280
G03	UPFH0193430	ENST00000221930.5	TGFB1	ENSG00000105329	transforming growth factor beta 1 Source NCBI gene Acc 7040
G04	UPFH1132723	ENST00000361475.7	TGM2	ENSG00000198959	transglutaminase 2 Source HGNC Symbol Acc HGNC 11778
G05	UPFH0164238	ENST00000297459.4	TMEM74	ENSG00000164841	transmembrane protein 74 Source HGNC Symbol Acc HGNC 26409
G06	UPFH1132978	ENST00000449264.3	TNF	ENSG00000232810	tumor necrosis factor Source HGNC Symbol Acc HGNC 11892
G07	UPFH1132733	ENST00000241261.7	TNFSF10	ENSG00000121858	TNF superfamily member 10 Source HGNC Symbol Acc HGNC 11925
G08	UPFH0565795	ENST00000269305.8	TP53	ENSG00000141510	tumor protein p53 Source HGNC Symbol Acc HGNC 11998
G09	UPFH1132747	ENST00000321867.6	ULK1	ENSG00000177169	unc-51 like autophagy activating kinase 1 Source HGNC Symbol Acc HGNC 12558
G10	UPFH1132748	ENST00000395544.9	ULK2	ENSG00000083290	unc-51 like autophagy activating kinase 2 Source HGNC Symbol Acc HGNC 13480
G11	UPFH1132928	ENST00000532130.1	UVRAG	ENSG00000198382	UV radiation resistance associated Source HGNC Symbol Acc HGNC 12640
G12	UPFH1132760	ENST00000262139.10	WIP1	ENSG00000070540	WD repeat domain, phosphoinositide interacting 1 Source HGNC Symbol Acc HGNC 25471
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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