

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

## Human Breast Cancer

Cat. no. 249955 UPHS-131ZA

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	ABCB1	ABCG2	ADAM23	AKT1	APC	AR	ATM	BAD	BCL2	BIRC5	BRCA1	BRCA2
B	CCNA1	CCND1	CCND2	CCNE1	CDH1	CDH13	CDK2	CDKN1A	CDKN1C	CDKN2A	CSF1	CST6
C	CTNNB1	CTSD	EGF	EGFR	ERBB2	ESR1	ESR2	FOXA1	GATA3	GLI1	GRB7	GSTP1
D	HIC1	ID1	IGF1	IGF1R	IGFBP3	IL6	JUN	KRT18	KRT19	KRT5	KRT8	MAPK1
E	MAPK3	MAPK8	MGMT	MKI67	MLH1	MMP2	MMP9	MUC1	MYC	NME1	NOTCH1	NR3C1
F	PGR	PLAU	PRDM2	PTEN	PTGS2	PYCARD	RARB	RASSF1	RB1	SERPINE1	SFN	SFRP1
G	SLC39A6	SLIT2	SNAI2	SRC	TFF3	TGFB1	THBS1	TP53	TP73	TWIST1	VEGFA	XPB1
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	UPFH0266833	ENST00000483831.1	ABCB1	ENSG00000085563	ATP binding cassette subfamily B member 1 Source HGNC Symbol Acc HGNC 40
A02	UPFH0026485	ENST00000650821.1	ABCG2	ENSG00000118777	ATP binding cassette subfamily G member 2 (Junior blood group) Source HGNC Symbol Acc HGNC 74
A03	UPFH0549747	ENST00000444281.1	ADAM23	ENSG00000114948	ADAM metallopeptidase domain 23 Source HGNC Symbol Acc HGNC 202
A04	UPFH0453992	ENST00000555528.5	AKT1	ENSG00000142208	AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391
A05	UPFH1132236	ENST00000257430.9	APC	ENSG00000134982	APC, WNT signaling pathway regulator Source HGNC Symbol Acc HGNC 583
A06	UPFH0268128	ENST00000374690.8	AR	ENSG00000169083	androgen receptor Source HGNC Symbol Acc HGNC 644
A07	UPFH1132252	ENST00000527805.5	ATM	ENSG00000149311	ATM serine/threonine kinase Source HGNC Symbol Acc HGNC 795
A08	UPFH0437748	ENST00000394532.7	BAD	ENSG00000002330	BCL2 associated agonist of cell death Source HGNC Symbol Acc HGNC 936
A09	UPFH1132900	ENST00000333681.5	BCL2	ENSG00000171791	BCL2, apoptosis regulator Source HGNC Symbol Acc HGNC 990
A10	UPFH1132779	ENST00000301633.8	BIRC5	ENSG00000089685	baculoviral IAP repeat containing 5 Source HGNC Symbol Acc HGNC 593
A11	UPFH1132279	ENST00000461574.1	BRCA1	ENSG00000012048	BRCA1, DNA repair associated Source HGNC Symbol Acc HGNC 1100
A12	UPFH0304950	ENST00000544455.5	BRCA2	ENSG00000139618	BRCA2, DNA repair associated Source HGNC Symbol Acc HGNC 1101
B01	UPFH0417476	ENST00000255465.7	CCNA1	ENSG00000133101	cyclin A1 Source HGNC Symbol Acc HGNC 1577
B02	UPFH0430337	ENST00000227507.2	CCND1	ENSG00000110092	cyclin D1 Source HGNC Symbol Acc HGNC 1582
B03	UPFH1132296	ENST00000261254.8	CCND2	ENSG00000118971	cyclin D2 Source HGNC Symbol Acc HGNC 1583
B04	UPFH1132297	ENST00000444983.6	CCNE1	ENSG00000105173	cyclin E1 Source HGNC Symbol Acc HGNC 1589
B05	UPFH1132791	ENST00000261769.10	CDH1	ENSG00000039068	cadherin 1 Source HGNC Symbol Acc HGNC 1748
B06	UPFH0210939	ENST00000428848.7	CDH13	ENSG00000140945	cadherin 13 Source HGNC Symbol Acc HGNC 1753
B07	UPFH1132961	ENST00000266970.9	CDK2	ENSG00000123374	cyclin dependent kinase 2 Source HGNC Symbol Acc HGNC 1771
B08	UPFH0312181	ENST00000244741.9	CDKN1A	ENSG00000124762	cyclin dependent kinase inhibitor 1A Source HGNC Symbol Acc HGNC 1784
B09	UPFH0327918	ENST00000440480.7	CDKN1C	ENSG00000129757	cyclin dependent kinase inhibitor 1C Source HGNC Symbol Acc HGNC 1786
B10	UPFH0246593	ENST00000494262.5	CDKN2A	ENSG00000147889	cyclin dependent kinase inhibitor 2A Source HGNC Symbol Acc HGNC 1787
B11	UPFH1132338	ENST00000329608.11	CSF1	ENSG00000184371	colony stimulating factor 1 Source HGNC Symbol Acc HGNC 2432
B12	UPFH0228793	ENST00000312134.3	CST6	ENSG00000175315	cystatin E/M Source HGNC Symbol Acc HGNC 2478
C01	UPFH0097734	ENST00000396183.7	CTNNB1	ENSG00000168036	catenin beta 1 Source HGNC Symbol Acc HGNC 2514
C02	UPFH1132343	ENST00000637815.1	CTSD	ENSG00000117984	cathepsin D Source HGNC Symbol Acc HGNC 2529
C03	UPFH1132380	ENST00000503392.1	EGF	ENSG00000138798	epidermal growth factor Source HGNC Symbol Acc HGNC 3229
C04	UPFH1132381	ENST00000420316.6	EGFR	ENSG00000146648	epidermal growth factor receptor Source HGNC Symbol Acc HGNC 3236
C05	UPFH1132388	ENST00000541774.5	ERBB2	ENSG00000141736	erb-b2 receptor tyrosine kinase 2 Source HGNC Symbol Acc HGNC 3430
C06	UPFH0599047	ENST00000206249.7	ESR1	ENSG00000091831	estrogen receptor 1 Source HGNC Symbol Acc HGNC 3467
C07	UPFH0094598	ENST00000358599.9	ESR2	ENSG00000140009	estrogen receptor 2 Source HGNC Symbol Acc HGNC 3468
C08	UPFH0457116	ENST00000250448.3	FOXA1	ENSG00000129514	forkhead box A1 Source HGNC Symbol Acc HGNC 5021
C09	UPFH1132416	ENST00000645492.1	GATA3	ENSG00000107485	GATA binding protein 3 Source HGNC Symbol Acc HGNC 4172
C10	UPFH0266526	ENST00000546141.5	GLI1	ENSG00000111087	GLI family zinc finger 1 Source HGNC Symbol Acc HGNC 4317
		ENST000005577		ENSG000000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFH0236129	695.5	GRB7	141738	growth factor receptor bound protein 7 Source HGNC Symbol Acc HGNC 4567
C12	UPFH0262059	ENST00000398606.8	GSTP1	ENSG00000084207	glutathione S-transferase pi 1 Source HGNC Symbol Acc HGNC 4638
D01	UPFH0558457	ENST00000399849.4	HIC1	ENSG00000177374	HIC ZBTB transcriptional repressor 1 Source HGNC Symbol Acc HGNC 4909
D02	UPFH1132463	ENST00000376112.4	ID1	ENSG00000125968	inhibitor of DNA binding 1, HLH protein Source HGNC Symbol Acc HGNC 5360
D03	UPFH0229443	ENST00000337514.10	IGF1	ENSG00000017427	insulin like growth factor 1 Source HGNC Symbol Acc HGNC 5464
D04	UPFH0237955	ENST00000650285.1	IGF1R	ENSG00000140443	insulin like growth factor 1 receptor Source HGNC Symbol Acc HGNC 5465
D05	UPFH1132893	ENST00000275521.10	IGFBP3	ENSG00000146674	insulin like growth factor binding protein 3 Source HGNC Symbol Acc HGNC 5472
D06	UPFH1172910	ENST00000258743.10	IL6	ENSG00000136244	interleukin 6 Source HGNC Symbol Acc HGNC 6018
D07	UPFH0569765	ENST00000371222.3	JUN	ENSG00000177606	Jun proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 6204
D08	UPFH0381528	ENST00000388835.4	KRT18	ENSG00000111057	keratin 18 Source HGNC Symbol Acc HGNC 6430
D09	UPFH0435640	ENST00000361566.7	KRT19	ENSG00000171345	keratin 19 Source HGNC Symbol Acc HGNC 6436
D10	UPFH0589368	ENST00000548409.5	KRT5	ENSG00000186081	keratin 5 Source HGNC Symbol Acc HGNC 6442
D11	UPFH0434758	ENST00000547176.3	KRT8	ENSG00000170421	keratin 8 Source HGNC Symbol Acc HGNC 6446
D12	UPFH0366815	ENST00000215832.10	MAPK1	ENSG00000100030	mitogen-activated protein kinase 1 Source HGNC Symbol Acc HGNC 6871
E01	UPFH1132534	ENST00000481230.1	MAPK3	ENSG00000102882	mitogen-activated protein kinase 3 Source HGNC Symbol Acc HGNC 6877
E02	UPFH1132535	ENST00000374179.8	MAPK8	ENSG00000107643	mitogen-activated protein kinase 8 Source HGNC Symbol Acc HGNC 6881
E03	UPFH0403444	ENST00000306010.8	MGMT	ENSG00000170430	O-6-methylguanine-DNA methyltransferase Source HGNC Symbol Acc HGNC 7059
E04	UPFH1132549	ENST00000368653.7	MKI67	ENSG00000148773	marker of proliferation Ki-67 Source HGNC Symbol Acc HGNC 7107
E05	UPFH0346001	ENST00000231790.6	MLH1	ENSG00000076242	mutL homolog 1 Source HGNC Symbol Acc HGNC 7127
E06	UPFH1132551	ENST00000437642.6	MMP2	ENSG00000087245	matrix metalloproteinase 2 Source HGNC Symbol Acc HGNC 7166
E07	UPFH0367626	ENST00000372330.3	MMP9	ENSG00000100985	matrix metalloproteinase 9 Source HGNC Symbol Acc HGNC 7176
E08	UPFH0433185	ENST00000368393.7	MUC1	ENSG00000185499	mucin 1, cell surface associated Source HGNC Symbol Acc HGNC 7508
E09	UPFH1132563	ENST00000517291.1	MYC	ENSG00000136997	MYC proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7553
E10	UPFH0432508	ENST00000336097.7	NME1	ENSG00000239672	NME/NM23 nucleoside diphosphate kinase 1 Source HGNC Symbol Acc HGNC 7849
E11	UPFH0543837	ENST00000277541.7	NOTCH1	ENSG00000148400	notch 1 Source HGNC Symbol Acc HGNC 7881
E12	UPFH1132917	ENST00000394464.7	NR3C1	ENSG00000113580	nuclear receptor subfamily 3 group C member 1 Source HGNC Symbol Acc HGNC 7978
F01	UPFH0586168	ENST00000617858.4	PGR	ENSG00000082175	progesterone receptor Source HGNC Symbol Acc HGNC 8910
F02	UPFH1132831	ENST00000446342.5	PLAU	ENSG00000122861	plasminogen activator, urokinase Source HGNC Symbol Acc HGNC 9052
F03	UPFH0283157	ENST00000491815.1	PRDM2	ENSG00000116731	PR/SET domain 2 Source HGNC Symbol Acc HGNC 9347
F04	UPFH1132982	ENST00000371953.8	PTEN	ENSG00000171862	phosphatase and tensin homolog Source HGNC Symbol Acc HGNC 9588
F05	UPFH1132642	ENST00000367468.10	PTGS2	ENSG00000073756	prostaglandin-endoperoxide synthase 2 Source HGNC Symbol Acc HGNC 9605
F06	UPFH1133183	ENST00000247470.10	PYCARD	ENSG00000103490	PYD and CARD domain containing Source HGNC Symbol Acc HGNC 16608
F07	UPFH0083509	ENST00000458646.1	RARB	ENSG00000077092	retinoic acid receptor beta Source HGNC Symbol Acc HGNC 9865
F08	UPFH0117232	ENST00000616212.4	RASSF1	ENSG00000068028	Ras association domain family member 1 Source HGNC Symbol Acc HGNC 9882
F09	UPFH0001483	ENST00000267163.5	RB1	ENSG00000139687	RB transcriptional corepressor 1 Source HGNC Symbol Acc HGNC 9884
F10	UPFH0384736	ENST00000223095.4	SERPINE1	ENSG00000106366	serpin family E member 1 Source HGNC Symbol Acc HGNC 8583

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFH0380654	ENST00000339276.6	SFN	ENSG00000175793	stratifin Source HGNC Symbol Acc HGNC 10773
F12	UPFH1132676	ENST00000220772.8	SFRP1	ENSG00000104332	secreted frizzled related protein 1 Source HGNC Symbol Acc HGNC 10776
G01	UPFH0143098	ENST00000586829.1	SLC39A6	ENSG00000141424	solute carrier family 39 member 6 Source HGNC Symbol Acc HGNC 18607
G02	UPFH0037938	ENST00000509941.1	SLIT2	ENSG00000145147	slit guidance ligand 2 Source HGNC Symbol Acc HGNC 11086
G03	UPFH1132690	ENST00000020945.4	SNAI2	ENSG00000019549	snail family transcriptional repressor 2 Source HGNC Symbol Acc HGNC 11094
G04	UPFH0308412	ENST00000472968.1	SRC	ENSG00000197122	SRC proto-oncogene, non-receptor tyrosine kinase Source HGNC Symbol Acc HGNC 11283
G05	UPFH0417595	ENST00000398431.2	TFF3	ENSG00000160180	trefoil factor 3 Source HGNC Symbol Acc HGNC 11757
G06	UPFH0193430	ENST00000221930.5	TGFB1	ENSG00000105329	transforming growth factor beta 1 Source NCBI gene Acc 7040
G07	UPFH1132847	ENST00000260356.5	THBS1	ENSG00000137801	thrombospondin 1 Source HGNC Symbol Acc HGNC 11785
G08	UPFH0565795	ENST00000269305.8	TP53	ENSG00000141510	tumor protein p53 Source HGNC Symbol Acc HGNC 11998
G09	UPFH1132927	ENST00000354437.8	TP73	ENSG00000078900	tumor protein p73 Source HGNC Symbol Acc HGNC 12003
G10	UPFH1132743	ENST00000242261.6	TWIST1	ENSG00000122691	twist family bHLH transcription factor 1 Source HGNC Symbol Acc HGNC 12428
G11	UPFH0281656	ENST00000425836.6	VEGFA	ENSG00000112715	vascular endothelial growth factor A Source HGNC Symbol Acc HGNC 12680
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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