

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

## Human Epithelial to Mesenchymal Transition (EMT)

Cat. no. 249955 UPHS-090ZA

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	AHNAK	AKT1	BMP1	BMP2	BMP7	CALD1	CAMK2N1	CAV2	CDH1	CDH2	COL1A2	COL3A1
B	COL5A2	CTNNB1	DSC2	DSP	EGFR	ERBB3	ESR1	F11R	FGFBP1	FN1	FOXC2	FZD7
C	GNG11	GSC	GSK3B	IGFBP4	IL1RN	ILK	ITGA5	ITGAV	ITGB1	JAG1	KRT14	KRT19
D	KRT7	MAP1B	MMP2	MMP3	MMP9	MSN	MST1R	NODAL	NOTCH1	NUDT13	OCLN	PDGFRB
E	PLEK2	DESI1	PTK2	PTP4A1	RAC1	RGS2	SERPINE1	GEMIN2	SMAD2	SNAI1	SNAI2	SNAI3
F	SOX10	SPARC	SPP1	STAT3	STEAP1	TCF3	TCF4	TFPI2	TGFB1	TGFB2	TGFB3	TIMP1
G	TMEFF1	TMEM132A	TSPAN13	TWIST1	VCAN	VIM	VPS13A	WNT11	WNT5A	WNT5B	ZEB1	ZEB2
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	UPFH0013694	ENST00000530124.5	AHNAK	ENSG00000124942	AHNAK nucleoprotein Source HGNC Symbol Acc HGNC 347
A02	UPFH0453992	ENST00000555528.5	AKT1	ENSG00000142208	AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391
A03	UPFH1132274	ENST00000306385.10	BMP1	ENSG00000168487	bone morphogenetic protein 1 Source HGNC Symbol Acc HGNC 1067
A04	UPFH1132780	ENST00000378827.5	BMP2	ENSG00000125845	bone morphogenetic protein 2 Source HGNC Symbol Acc HGNC 1069
A05	UPFH1132781	ENST00000433911.1	BMP7	ENSG00000101144	bone morphogenetic protein 7 Source HGNC Symbol Acc HGNC 1074
A06	UPFH0233428	ENST00000361675.7	CALD1	ENSG00000122786	caldesmon 1 Source HGNC Symbol Acc HGNC 1441
A07	UPFH1132282	ENST00000375078.4	CAMK2N1	ENSG00000162545	calcium/calmodulin dependent protein kinase II inhibitor 1 Source HGNC Symbol Acc HGNC 24190
A08	UPFH1132285	ENST00000222693.5	CAV2	ENSG00000105971	caveolin 2 Source HGNC Symbol Acc HGNC 1528
A09	UPFH1132791	ENST00000261769.10	CDH1	ENSG00000039068	cadherin 1 Source HGNC Symbol Acc HGNC 1748
A10	UPFH1132792	ENST00000399380.7	CDH2	ENSG00000170558	cadherin 2 Source HGNC Symbol Acc HGNC 1759
A11	UPFH1132970	ENST00000620463.1	COL1A2	ENSG00000164692	collagen type I alpha 2 chain Source HGNC Symbol Acc HGNC 2198
A12	UPFH0067087	ENST00000304636.7	COL3A1	ENSG00000168542	collagen type III alpha 1 chain Source HGNC Symbol Acc HGNC 2201
B01	UPFH1132326	ENST00000649066.1	COL5A2	ENSG00000204262	collagen type V alpha 2 chain Source HGNC Symbol Acc HGNC 2210
B02	UPFH0097734	ENST00000396183.7	CTNNB1	ENSG00000168036	catenin beta 1 Source HGNC Symbol Acc HGNC 2514
B03	UPFH1132370	ENST00000280904.10	DSC2	ENSG00000134755	desmocollin 2 Source HGNC Symbol Acc HGNC 3036
B04	UPFH1132371	ENST00000379802.8	DSP	ENSG00000096696	desmoplakin Source HGNC Symbol Acc HGNC 3052
B05	UPFH1132381	ENST00000420316.6	EGFR	ENSG00000146648	epidermal growth factor receptor Source HGNC Symbol Acc HGNC 3236
B06	UPFH0049356	ENST00000267101.7	ERBB3	ENSG00000065361	erb-b2 receptor tyrosine kinase 3 Source HGNC Symbol Acc HGNC 3431
B07	UPFH0599047	ENST00000206249.7	ESR1	ENSG00000091831	estrogen receptor 1 Source HGNC Symbol Acc HGNC 3467
B08	UPFH1132391	ENST00000621309.4	F11R	ENSG00000158769	F11 receptor Source HGNC Symbol Acc HGNC 14685
B09	UPFH0576081	ENST00000382333.1	FGFBP1	ENSG00000137440	fibroblast growth factor binding protein 1 Source HGNC Symbol Acc HGNC 19695
B10	UPFH0605066	ENST00000336916.8	FN1	ENSG00000115414	fibronectin 1 Source HGNC Symbol Acc HGNC 3778
B11	UPFH0518784	ENST00000649859.1	FOXC2	ENSG00000176692	forkhead box C2 Source HGNC Symbol Acc HGNC 3801
B12	UPFH0485950	ENST00000286201.2	FZD7	ENSG00000155760	frizzled class receptor 7 Source HGNC Symbol Acc HGNC 4045
C01	UPFH0327279	ENST00000248564.5	GNG11	ENSG00000127920	G protein subunit gamma 11 Source HGNC Symbol Acc HGNC 4403
C02	UPFH1132427	ENST00000238558.4	GSC	ENSG00000133937	goosecoid homeobox Source HGNC Symbol Acc HGNC 4612
C03	UPFH0470775	ENST00000316626.5	GSK3B	ENSG00000082701	glycogen synthase kinase 3 beta Source HGNC Symbol Acc HGNC 4617
C04	UPFH1132474	ENST00000269593.5	IGFBP4	ENSG00000141753	insulin like growth factor binding protein 4 Source HGNC Symbol Acc HGNC 5473
C05	UPFH0081459	ENST00000354115.6	IL1RN	ENSG00000136689	interleukin 1 receptor antagonist Source HGNC Symbol Acc HGNC 6000
C06	UPFH0412404	ENST00000299421.8	ILK	ENSG00000166333	integrin linked kinase Source HGNC Symbol Acc HGNC 6040
C07	UPFH1132497	ENST00000293379.9	ITGA5	ENSG00000161638	integrin subunit alpha 5 Source HGNC Symbol Acc HGNC 6141
C08	UPFH1132816	ENST00000261023.8	ITGAV	ENSG00000138448	integrin subunit alpha V Source HGNC Symbol Acc HGNC 6150
C09	UPFH1132498	ENST00000423113.5	ITGB1	ENSG00000150093	integrin subunit beta 1 Source HGNC Symbol Acc HGNC 6153
C10	UPFH0500277	ENST00000254958.10	JAG1	ENSG00000101384	jagged 1 Source HGNC Symbol Acc HGNC 6188
		ENST00000167		ENSG000000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFH1132514	586.7	KRT14	186847	keratin 14 Source HGNC Symbol Acc HGNC 6416
C12	UPFH0435640	ENST00000361566.7	KRT19	ENSG00000171345	keratin 19 Source HGNC Symbol Acc HGNC 6436
D01	UPFH1132515	ENST00000331817.6	KRT7	ENSG00000135480	keratin 7 Source HGNC Symbol Acc HGNC 6445
D02	UPFH1132530	ENST00000296755.12	MAP1B	ENSG00000131711	microtubule associated protein 1B Source HGNC Symbol Acc HGNC 6836
D03	UPFH1132551	ENST00000437642.6	MMP2	ENSG00000087245	matrix metalloproteinase 2 Source HGNC Symbol Acc HGNC 7166
D04	UPFH1132827	ENST00000299855.10	MMP3	ENSG00000149968	matrix metalloproteinase 3 Source HGNC Symbol Acc HGNC 7173
D05	UPFH0367626	ENST00000372330.3	MMP9	ENSG00000100985	matrix metalloproteinase 9 Source HGNC Symbol Acc HGNC 7176
D06	UPFH1132558	ENST00000360270.7	MSN	ENSG00000147065	moesin Source HGNC Symbol Acc HGNC 7373
D07	UPFH0463833	ENST00000613534.4	MST1R	ENSG00000164078	macrophage stimulating 1 receptor Source HGNC Symbol Acc HGNC 7381
D08	UPFH0200048	ENST00000287139.7	NODAL	ENSG00000156574	nodal growth differentiation factor Source HGNC Symbol Acc HGNC 7865
D09	UPFH0543837	ENST00000277541.7	NOTCH1	ENSG00000148400	notch 1 Source HGNC Symbol Acc HGNC 7881
D10	UPFH1132898	ENST00000349051.9	NUDT13	ENSG00000166321	nudix hydrolase 13 Source HGNC Symbol Acc HGNC 18827
D11	UPFH1132600	ENST00000355237.6	OCLN	ENSG00000197822	occludin Source HGNC Symbol Acc HGNC 8104
D12	UPFH1132610	ENST00000261799.9	PDGFRB	ENSG00000113721	platelet derived growth factor receptor beta Source HGNC Symbol Acc HGNC 8804
E01	UPFH0228220	ENST00000216446.9	PLEK2	ENSG00000100558	pleckstrin 2 Source HGNC Symbol Acc HGNC 19238
E02	UPFH1132357	ENST00000263256.7	DESI1	ENSG00000100418	desumoylating isopeptidase 1 Source HGNC Symbol Acc HGNC 24577
E03	UPFH1132643	ENST00000522684.5	PTK2	ENSG00000169398	protein tyrosine kinase 2 Source HGNC Symbol Acc HGNC 9611
E04	UPFH0182050	ENST00000626021.2	PTP4A1	ENSG00000112245	protein tyrosine phosphatase type IVA, member 1 Source HGNC Symbol Acc HGNC 9634
E05	UPFH1132648	ENST00000348035.9	RAC1	ENSG00000136238	Rac family small GTPase 1 Source HGNC Symbol Acc HGNC 9801
E06	UPFH1132656	ENST00000235382.7	RGS2	ENSG00000116741	regulator of G protein signaling 2 Source HGNC Symbol Acc HGNC 9998
E07	UPFH0384736	ENST00000223095.4	SERPINE1	ENSG00000106366	serpin family E member 1 Source HGNC Symbol Acc HGNC 8583
E08	UPFH0134299	ENST00000308317.10	GEMIN2	ENSG00000092208	gem nuclear organelle associated protein 2 Source HGNC Symbol Acc HGNC 10884
E09	UPFH1132686	ENST00000585978.1	SMAD2	ENSG00000175387	SMAD family member 2 Source HGNC Symbol Acc HGNC 6768
E10	UPFH1132841	ENST00000244050.3	SNAI1	ENSG00000124216	snail family transcriptional repressor 1 Source HGNC Symbol Acc HGNC 11128
E11	UPFH1132690	ENST00000020945.4	SNAI2	ENSG00000019549	snail family transcriptional repressor 2 Source HGNC Symbol Acc HGNC 11094
E12	UPFH1132691	ENST00000332281.6	SNAI3	ENSG00000185669	snail family transcriptional repressor 3 Source NCBI gene Acc 333929
F01	UPFH1132694	ENST00000360880.6	SOX10	ENSG00000100146	SRY-box 10 Source HGNC Symbol Acc HGNC 11190
F02	UPFH0385149	ENST00000231061.9	SPARC	ENSG00000113140	secreted protein acidic and cysteine rich Source HGNC Symbol Acc HGNC 11219
F03	UPFH0044238	ENST00000237623.11	SPP1	ENSG00000118785	secreted phosphoprotein 1 Source HGNC Symbol Acc HGNC 11255
F04	UPFH0531262	ENST00000404395.3	STAT3	ENSG00000168610	signal transducer and activator of transcription 3 Source HGNC Symbol Acc HGNC 11364
F05	UPFH1132698	ENST00000297205.7	STEAP1	ENSG00000164647	STEAP family member 1 Source HGNC Symbol Acc HGNC 11378
F06	UPFH1132708	ENST00000262965.10	TCF3	ENSG00000071564	transcription factor 3 Source HGNC Symbol Acc HGNC 11633
F07	UPFH0181405	ENST00000356073.8	TCF4	ENSG00000196628	transcription factor 4 Source HGNC Symbol Acc HGNC 11634
F08	UPFH0014469	ENST00000451238.1	TFPI2	ENSG00000105825	tissue factor pathway inhibitor 2 Source HGNC Symbol Acc HGNC 11761
F09	UPFH0193430	ENST00000221930.5	TGFB1	ENSG00000105329	transforming growth factor beta 1 Source NCBI gene Acc 7040
F10	UPFH1132846	ENST00000366929.4	TGFB2	ENSG00000092969	transforming growth factor beta 2 Source HGNC Symbol Acc HGNC 11768

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFH0000256	ENST00000238682.7	TGFB3	ENSG00000119699	transforming growth factor beta 3 Source HGNC Symbol Acc HGNC 11769
F12	UPFH1132725	ENST00000456754.6	TIMP1	ENSG00000102265	TIMP metallopeptidase inhibitor 1 Source HGNC Symbol Acc HGNC 11820
G01	UPFH1132730	ENST00000374879.5	TMEFF1	ENSG00000241697	transmembrane protein with EGF like and two follistatin like domains 1 Source HGNC Symbol Acc HGNC 11866
G02	UPFH0176334	ENST00000453848.6	TMEM132A	ENSG00000006118	transmembrane protein 132A Source HGNC Symbol Acc HGNC 31092
G03	UPFH1132741	ENST00000262067.5	TSPAN13	ENSG00000106537	tetraspanin 13 Source HGNC Symbol Acc HGNC 21643
G04	UPFH1132743	ENST00000242261.6	TWIST1	ENSG00000122691	twist family bHLH transcription factor 1 Source HGNC Symbol Acc HGNC 12428
G05	UPFH0156047	ENST00000342785.8	VCAN	ENSG00000038427	versican Source HGNC Symbol Acc HGNC 2464
G06	UPFH1132857	ENST00000544301.7	VIM	ENSG00000026025	vimentin Source HGNC Symbol Acc HGNC 12692
G07	UPFH1132756	ENST00000376636.7	VPS13A	ENSG00000197969	vacuolar protein sorting 13 homolog A Source HGNC Symbol Acc HGNC 1908
G08	UPFH1132929	ENST00000322563.8	WNT11	ENSG00000085741	Wnt family member 11 Source HGNC Symbol Acc HGNC 12776
G09	UPFH0355989	ENST00000264634.8	WNT5A	ENSG00000114251	Wnt family member 5A Source HGNC Symbol Acc HGNC 12784
G10	UPFH1132764	ENST00000537031.5	WNT5B	ENSG00000111186	Wnt family member 5B Source HGNC Symbol Acc HGNC 16265
G11	UPFH0549854	ENST00000437844.6	ZEB1	ENSG00000148516	zinc finger E-box binding homeobox 1 Source HGNC Symbol Acc HGNC 11642
G12	UPFH1132769	ENST00000409487.7	ZEB2	ENSG00000169554	zinc finger E-box binding homeobox 2 Source HGNC Symbol Acc HGNC 14881
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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