

# QuantiNova® LNA® PCR Focus Panels (Rotor-Gene® Format)

## Human Liver Cancer

Cat. no. 249950 SBHS-133ZR

For study focus gene expression analysis

### Shipping and storage

QuantiNova LNA PCR Focus Panels are shipped at ambient temperature. Immediately upon receipt, they should be stored 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 PCR Focus Panels should be used together with the QuantiNova Reverse Transcription Kit for cDNA synthesis and the QuantiNova SYBR® Green PCR Kit (Mastermix) for PCR.

### Panel layout (Rotor-Gene): QuantiNova LNA PCR Focus Panel

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc® (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance. Refer to the QuantiNova LNA PCR System 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	ADAM17	AKT1	ANGPT2	BAX	BCL2	BCL2L1	BID	BIRC2	BIRC5	CASP8	CCL5	CCND1
B	CCND2	CDH1	CDH13	CDKN1A	CDKN1B	CDKN2A	CFLAR	CTNNB1	CXCR4	DAB2IP	DLC1	E2F1
C	EGF	EGFR	EP300	FADD	FAS	FHIT	FLT1	FZD7	GADD45B	GSTP1	HGF	HHIP
D	HRAS	IGF2	IGFBP1	IGFBP3	IRS1	ITGB1	KDR	LEF1	MCL1	MET	MSH2	MSH3
E	MTDH	MYC	NFKB1	NRAS	OPCML	PDGFRA	PIN1	PTEN	PTGS2	PTK2	PYCARD	RAC1
F	RASSF1	RB1	RELN	RHOA	RUNX3	SFRP2	SMAD4	SMAD7	SOCS1	SOCS3	STAT3	TCF4
G	TERT	TGFA	TGFB1	TGFB2	TLR4	TNFRSF10B	TNFSF10	TP53	VEGFA	WT1	XIAP	YAP1
H	ACTB	B2M	GAPDH	HPRT1	RPLP0	HGDC	QIC	QIC	QIC	PPC	PPC	PPC

## Gene table: QuantiNova LNA PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	SBH1219723	ENST00000310823.8	ADAM17	ENSG00000151694	ADAM metallopeptidase domain 17 Source HGNC Symbol Acc HGNC 195
A02	SBH0095396	ENST00000555528.5	AKT1	ENSG00000142208	AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391
A03	SBH1219740	ENST00000338312.10	ANGPT2	ENSG00000091879	angiopoietin 2 Source HGNC Symbol Acc HGNC 485
A04	SBH1219783	ENST00000391871.4	BAX	ENSG00000087088	BCL2 associated X, apoptosis regulator Source HGNC Symbol Acc HGNC 959
A05	SBH1219786	ENST00000398117.1	BCL2	ENSG00000171791	BCL2, apoptosis regulator Source HGNC Symbol Acc HGNC 990
A06	SBH0216029	ENST00000450273.1	BCL2L1	ENSG00000171552	BCL2 like 1 Source HGNC Symbol Acc HGNC 992
A07	SBH0641141	ENST00000622694.4	BID	ENSG00000015475	BH3 interacting domain death agonist Source HGNC Symbol Acc HGNC 1050
A08	SBH1219795	ENST00000530675.5	BIRC2	ENSG00000110330	baculoviral IAP repeat containing 2 Source HGNC Symbol Acc HGNC 590
A09	SBH1219797	ENST00000301633.8	BIRC5	ENSG00000089685	baculoviral IAP repeat containing 5 Source HGNC Symbol Acc HGNC 593
A10	SBH0075404	ENST00000358485.8	CASP8	ENSG00000064012	caspase 8 Source HGNC Symbol Acc HGNC 1509
A11	SBH1219840	ENST00000603197.6	CCL5	ENSG00000271503	C-C motif chemokine ligand 5 Source HGNC Symbol Acc HGNC 10632
A12	SBH0434090	ENST00000227507.2	CCND1	ENSG00000110092	cyclin D1 Source HGNC Symbol Acc HGNC 1582
B01	SBH1219845	ENST00000261254.8	CCND2	ENSG00000118971	cyclin D2 Source HGNC Symbol Acc HGNC 1583
B02	SBH1219869	ENST00000261769.10	CDH1	ENSG00000039068	cadherin 1 Source HGNC Symbol Acc HGNC 1748
B03	SBH0542083	ENST00000268613.14	CDH13	ENSG00000140945	cadherin 13 Source HGNC Symbol Acc HGNC 1753
B04	SBH0608500	ENST00000244741.9	CDKN1A	ENSG00000124762	cyclin dependent kinase inhibitor 1A Source HGNC Symbol Acc HGNC 1784
B05	SBH1219879	ENST00000442489.1	CDKN1B	ENSG00000111276	cyclin dependent kinase inhibitor 1B Source HGNC Symbol Acc HGNC 1785
B06	SBH0349548	ENST00000304494.9	CDKN2A	ENSG00000147889	cyclin dependent kinase inhibitor 2A Source HGNC Symbol Acc HGNC 1787
B07	SBH1219883	ENST00000462763.5	CFLAR	ENSG00000003402	CASP8 and FADD like apoptosis regulator Source HGNC Symbol Acc HGNC 1876
B08	SBH0588482	ENST00000396183.7	CTNNB1	ENSG00000168036	catenin beta 1 Source HGNC Symbol Acc HGNC 2514
B09	SBH0591410	ENST00000241393.3	CXCR4	ENSG00000121966	C-X-C motif chemokine receptor 4 Source HGNC Symbol Acc HGNC 2561
B10	SBH0030062	ENST00000459906.1	DAB2IP	ENSG00000136848	DAB2 interacting protein Source HGNC Symbol Acc HGNC 17294
B11	SBH0650766	ENST00000510318.5	DLC1	ENSG00000164741	DLC1 Rho GTPase activating protein Source HGNC Symbol Acc HGNC 2897
B12	SBH1219965	ENST00000343380.6	E2F1	ENSG00000101412	E2F transcription factor 1 Source HGNC Symbol Acc HGNC 3113
C01	SBH0321686	ENST00000265171.9	EGF	ENSG00000138798	epidermal growth factor Source HGNC Symbol Acc HGNC 3229
C02	SBH1219970	ENST00000454757.6	EGFR	ENSG00000146648	epidermal growth factor receptor Source HGNC Symbol Acc HGNC 3236
C03	SBH1219977	ENST00000263253.9	EP300	ENSG00000100393	E1A binding protein p300 Source HGNC Symbol Acc HGNC 3373
C04	SBH0294674	ENST00000301838.4	FADD	ENSG00000168040	Fas associated via death domain Source HGNC Symbol Acc HGNC 3573
C05	SBH1219994	ENST00000652046.1	FAS	ENSG00000026103	Fas cell surface death receptor Source HGNC Symbol Acc HGNC 11920
C06	SBH0626536	ENST00000492590.6	FHIT	ENSG00000189283	fragile histidine triad Source HGNC Symbol Acc HGNC 3701
C07	SBH1220002	ENST00000282397.9	FLT1	ENSG00000102755	fms related tyrosine kinase 1 Source HGNC Symbol Acc HGNC 3763
C08	SBH0357958	ENST00000286201.2	FZD7	ENSG00000155760	frizzled class receptor 7 Source HGNC Symbol Acc HGNC 4045
C09	SBH1220020	ENST00000587345.1	GADD45B	ENSG00000099860	growth arrest and DNA damage inducible beta Source HGNC Symbol Acc HGNC 4096
C10	SBH1220043	ENST00000642444.1	GSTP1	ENSG00000084207	glutathione S-transferase pi 1 Source HGNC Symbol Acc HGNC 4638
		ENST00000457		ENSG000000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH1220058	544.7	HGF	019991	hepatocyte growth factor Source HGNC Symbol Acc HGNC 4893
C12	SBH0369669	ENST00000505891.5	HHIP	ENSG00000164161	hedgehog interacting protein Source HGNC Symbol Acc HGNC 14866
D01	SBH0257285	ENST00000493230.5	HRAS	ENSG00000174775	HRas proto-oncogene, GTPase Source HGNC Symbol Acc HGNC 5173
D02	SBH0264962	ENST00000418738.2	IGF2	ENSG00000167244	insulin like growth factor 2 Source HGNC Symbol Acc HGNC 5466
D03	SBH0586817	ENST00000468955.1	IGFBP1	ENSG00000146678	insulin like growth factor binding protein 1 Source HGNC Symbol Acc HGNC 5469
D04	SBH1220092	ENST00000275521.10	IGFBP3	ENSG00000146674	insulin like growth factor binding protein 3 Source HGNC Symbol Acc HGNC 5472
D05	SBH0130188	ENST00000305123.5	IRS1	ENSG00000169047	insulin receptor substrate 1 Source HGNC Symbol Acc HGNC 6125
D06	SBH1220136	ENST00000302278.8	ITGB1	ENSG00000150093	integrin subunit beta 1 Source HGNC Symbol Acc HGNC 6153
D07	SBH0020198	ENST00000263923.5	KDR	ENSG00000128052	kinase insert domain receptor Source HGNC Symbol Acc HGNC 6307
D08	SBH1220167	ENST00000265165.6	LEF1	ENSG00000138795	lymphoid enhancer binding factor 1 Source HGNC Symbol Acc HGNC 6551
D09	SBH1220199	ENST00000620947.4	MCL1	ENSG00000143384	MCL1, BCL2 family apoptosis regulator Source HGNC Symbol Acc HGNC 6943
D10	SBH1220210	ENST00000318493.11	MET	ENSG00000105976	MET proto-oncogene, receptor tyrosine kinase Source HGNC Symbol Acc HGNC 7029
D11	SBH1220228	ENST00000233146.6	MSH2	ENSG00000095002	mutS homolog 2 Source HGNC Symbol Acc HGNC 7325
D12	SBH1220229	ENST00000265081.7	MSH3	ENSG00000113318	mutS homolog 3 Source HGNC Symbol Acc HGNC 7326
E01	SBH0254733	ENST00000521933.1	MTDH	ENSG00000147649	metadherin Source HGNC Symbol Acc HGNC 29608
E02	SBH0426145	ENST00000524013.1	MYC	ENSG00000136997	MYC proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7553
E03	SBH1220264	ENST00000651197.1	NFKB1	ENSG00000109320	nuclear factor kappa B subunit 1 Source HGNC Symbol Acc HGNC 7794
E04	SBH0148098	ENST00000369535.5	NRAS	ENSG00000213281	NRAS proto-oncogene, GTPase Source HGNC Symbol Acc HGNC 7989
E05	SBH0337414	ENST00000524381.5	OPCML	ENSG00000183715	opioid binding protein/cell adhesion molecule like Source HGNC Symbol Acc HGNC 8143
E06	SBH1220292	ENST00000257290.10	PDGFRA	ENSG00000134853	platelet derived growth factor receptor alpha Source HGNC Symbol Acc HGNC 8803
E07	SBH0214152	ENST00000380889.6	PIN1	ENSG00000127445	peptidylprolyl cis/trans isomerase, NIMA-interacting 1 Source HGNC Symbol Acc HGNC 8988
E08	SBH1225378	ENST00000371953.8	PTEN	ENSG00000171862	phosphatase and tensin homolog Source HGNC Symbol Acc HGNC 9588
E09	SBH1220344	ENST00000367468.10	PTGS2	ENSG00000073756	prostaglandin-endoperoxide synthase 2 Source HGNC Symbol Acc HGNC 9605
E10	SBH1220345	ENST00000523539.5	PTK2	ENSG00000169398	protein tyrosine kinase 2 Source HGNC Symbol Acc HGNC 9611
E11	SBH1220348	ENST00000247470.10	PYCARD	ENSG00000103490	PYD and CARD domain containing Source HGNC Symbol Acc HGNC 16608
E12	SBH1220352	ENST00000356142.4	RAC1	ENSG00000136238	Rac family small GTPase 1 Source HGNC Symbol Acc HGNC 9801
F01	SBH0462049	ENST00000359365.8	RASSF1	ENSG00000068028	Ras association domain family member 1 Source HGNC Symbol Acc HGNC 9882
F02	SBH0093533	ENST00000267163.5	RB1	ENSG00000139687	RB transcriptional corepressor 1 Source HGNC Symbol Acc HGNC 9884
F03	SBH0121539	ENST00000428762.6	RELN	ENSG00000189056	reelin Source HGNC Symbol Acc HGNC 9957
F04	SBH1220367	ENST00000418115.6	RHOA	ENSG00000067560	ras homolog family member A Source HGNC Symbol Acc HGNC 667
F05	SBH0602622	ENST00000496967.1	RUNX3	ENSG00000020633	runt related transcription factor 3 Source HGNC Symbol Acc HGNC 10473
F06	SBH0113874	ENST00000274063.5	SFRP2	ENSG00000145423	secreted frizzled related protein 2 Source HGNC Symbol Acc HGNC 10777
F07	SBH1220406	ENST00000588745.5	SMAD4	ENSG00000141646	SMAD family member 4 Source HGNC Symbol Acc HGNC 6770
F08	SBH0167278	ENST00000262158.7	SMAD7	ENSG00000101665	SMAD family member 7 Source HGNC Symbol Acc HGNC 6773
F09	SBH1220412	ENST00000644787.1	SOCS1	ENSG00000185338	suppressor of cytokine signaling 1 Source HGNC Symbol Acc HGNC 19383
F10	SBH1220413	ENST00000330871.3	SOCS3	ENSG00000184557	suppressor of cytokine signaling 3 Source HGNC Symbol Acc HGNC 19391

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH0341614	ENST00000404395.3	STAT3	ENSG00000168610	signal transducer and activator of transcription 3 Source HGNC Symbol Acc HGNC 11364
F12	SBH0089633	ENST00000356073.8	TCF4	ENSG00000196628	transcription factor 4 Source HGNC Symbol Acc HGNC 11634
G01	SBH0606096	ENST00000334602.10	TERT	ENSG00000164362	telomerase reverse transcriptase Source HGNC Symbol Acc HGNC 11730
G02	SBH1220442	ENST00000445399.5	TGFA	ENSG00000163235	transforming growth factor alpha Source HGNC Symbol Acc HGNC 11765
G03	SBH1220443	ENST00000598758.5	TGFB1	ENSG00000105329	transforming growth factor beta 1 Source NCBI gene Acc 7040
G04	SBH0598842	ENST00000295754.9	TGFB2	ENSG00000163513	transforming growth factor beta receptor 2 Source HGNC Symbol Acc HGNC 11773
G05	SBH0092782	ENST00000355622.8	TLR4	ENSG00000136869	toll like receptor 4 Source HGNC Symbol Acc HGNC 11850
G06	SBH1220473	ENST00000347739.3	TNFRSF10B	ENSG00000120889	TNF receptor superfamily member 10b Source HGNC Symbol Acc HGNC 11905
G07	SBH1220477	ENST00000241261.7	TNFSF10	ENSG00000121858	TNF superfamily member 10 Source HGNC Symbol Acc HGNC 11925
G08	SBH1220486	ENST00000445888.6	TP53	ENSG00000141510	tumor protein p53 Source HGNC Symbol Acc HGNC 11998
G09	SBH0420322	ENST00000425836.6	VEGFA	ENSG00000112715	vascular endothelial growth factor A Source HGNC Symbol Acc HGNC 12680
G10	SBH0326930	ENST00000650861.1	WT1	ENSG00000184937	Wilms tumor 1 Source HGNC Symbol Acc HGNC 12796
G11	SBH1220539	ENST00000434753.7	XIAP	ENSG00000101966	X-linked inhibitor of apoptosis Source HGNC Symbol Acc HGNC 592
G12	SBH0505597	ENST00000529029.1	YAP1	ENSG00000137693	Yes associated protein 1 Source HGNC Symbol Acc HGNC 16262
H01	SBH1220543	ENST00000646664.1	ACTB	ENSG00000075624	actin beta Source HGNC Symbol Acc HGNC 132
H02	SBH1220550	ENST00000558401.6	B2M	ENSG00000166710	beta-2-microglobulin Source HGNC Symbol Acc HGNC 914
H03	SBH1220545	ENST00000396861.5	GAPDH	ENSG00000111640	glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141
H04	SBH1220546	ENST00000298556.8	HPRT1	ENSG00000165704	hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157
H05	SBH1220553	ENST00000546989.5	RPLP0	ENSG00000089157	ribosomal protein lateral stalk subunit P0 Source HGNC Symbol Acc HGNC 10371
H06	SBH1218553	Sybr_HGDC	HGDC	Sybr_HGDC	Human Genomic DNA Contamination
H07	SBH1218551	Sybr_QIC	QIC	Sybr_QIC	QuantiNova Internal Control
H08	SBH1218551	Sybr_QIC	QIC	Sybr_QIC	QuantiNova Internal Control
H09	SBH1218551	Sybr_QIC	QIC	Sybr_QIC	QuantiNova Internal Control
H10	SBH1218550	Sybr_PPC	PPC	Sybr_PPC	Positive PCR Control
H11	SBH1218550	Sybr_PPC	PPC	Sybr_PPC	Positive PCR Control
H12	SBH1218550	Sybr_PPC	PPC	Sybr_PPC	Positive PCR Control



## Related products

Product	Contents	Cat. no.
QuantiNova LNA PCR QC Panel	These panels are designed to assess the quality of RNA samples before characterization using QuantiNova LNA PCR Focus Panels; available in 96-well, 384-well, and Rotor-Disc 100 formats	249940
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 SYBR Green RT-PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 $\mu$ l QuantiNova SYBR Green 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	208152
QuantiNova SYBR Green PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 $\mu$ l QuantiNova Yellow Template Dilution Buffer, 250 $\mu$ l QN ROX Reference Dye, 1.9 ml Water	208052

\*Larger kit sizes available.

The QuantiNova LNA 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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