

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

## Human Leukemia

Cat. no. 249950 SBHS-137ZR

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	ABL1	AKT1	ALOX5	APAF1	BAALC	BCL2	BCR	BMPR1B	BTG3	CADM1	CCL3	CD34
B	CDC42EP3	CDH1	CDH13	CDKN1A	CDKN1B	CDKN1C	CDKN2B	CEBPB	CSF3	CCN2	CTNNB1	CXCL10
C	DAPK1	DKK3	DLC1	EGR3	FGR	FOXO3	GAS2L3	GATA1	GRB2	HCK	HDAC1	HIC1
D	HSP90AA1	IFNA1	IKZF3	IL10	IL12A	IL1R1	IL4	IL6	CXCL8	JAK2	JUN	JUNB
E	LMO1	LMO2	LYL1	MCL1	MEIS1	MERTK	MLH1	MN1	MTOR	NFKB1	NPM1	NR4A3
F	PML	PRKCB	PTEN	RAC2	RGS12	RUNX1	RUNX2	RUNX3	SFRP2	SFRP4	SFRP5	SHC1
G	SMO	SOCS1	SPI1	STAT1	STAT3	STAT5A	STAT5B	TAL1	TLX1	TLX3	TP53	WIF1
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	SBH1219716	ENST00000372348.6	ABL1	ENSG00000097007	ABL proto-oncogene 1, non-receptor tyrosine kinase Source HGNC Symbol Acc HGNC 76
A02	SBH0095396	ENST00000555528.5	AKT1	ENSG00000142208	AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391
A03	SBH1219736	ENST00000374391.7	ALOX5	ENSG00000012779	arachidonate 5-lipoxygenase Source HGNC Symbol Acc HGNC 435
A04	SBH1219745	ENST00000359972.6	APAF1	ENSG00000120868	apoptotic peptidase activating factor 1 Source HGNC Symbol Acc HGNC 576
A05	SBH0476593	ENST00000297574.6	BAALC	ENSG00000164929	BAALC, MAP3K1 and KLF4 binding Source HGNC Symbol Acc HGNC 14333
A06	SBH1219786	ENST00000398117.1	BCL2	ENSG00000171791	BCL2, apoptosis regulator Source HGNC Symbol Acc HGNC 990
A07	SBH0542033	ENST00000305877.12	BCR	ENSG00000186716	BCR, RhoGEF and GTPase activating protein Source HGNC Symbol Acc HGNC 1014
A08	SBH0153062	ENST00000515059.5	BMPRI1B	ENSG00000138696	bone morphogenetic protein receptor type 1B Source HGNC Symbol Acc HGNC 1077
A09	SBH0131315	ENST00000339775.10	BTG3	ENSG00000154640	BTG anti-proliferation factor 3 Source HGNC Symbol Acc HGNC 1132
A10	SBH0022553	ENST00000537058.5	CADM1	ENSG00000182985	cell adhesion molecule 1 Source HGNC Symbol Acc HGNC 5951
A11	SBH1219838	ENST00000613922.2	CCL3	ENSG00000277632	C-C motif chemokine ligand 3 Source HGNC Symbol Acc HGNC 10627
A12	SBH0234693	ENST00000356522.4	CD34	ENSG00000174059	CD34 molecule Source HGNC Symbol Acc HGNC 1662
B01	SBH0329515	ENST00000422687.1	CDC42EP3	ENSG00000163171	CDC42 effector protein 3 Source HGNC Symbol Acc HGNC 16943
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	SBH0517353	ENST00000440480.7	CDKN1C	ENSG00000129757	cyclin dependent kinase inhibitor 1C Source HGNC Symbol Acc HGNC 1786
B07	SBH1219880	ENST00000276925.7	CDKN2B	ENSG00000147883	cyclin dependent kinase inhibitor 2B Source HGNC Symbol Acc HGNC 1788
B08	SBH0569983	ENST00000303004.4	CEBPB	ENSG00000172216	CCAAT enhancer binding protein beta Source HGNC Symbol Acc HGNC 1834
B09	SBH0378721	ENST00000225474.6	CSF3	ENSG00000108342	colony stimulating factor 3 Source HGNC Symbol Acc HGNC 2438
B10	SBH1219917	ENST00000367976.4	CCN2	ENSG00000118523	cellular communication network factor 2 Source HGNC Symbol Acc HGNC 2500
B11	SBH0588482	ENST00000396183.7	CTNNB1	ENSG00000168036	catenin beta 1 Source HGNC Symbol Acc HGNC 2514
B12	SBH1219927	ENST00000306602.3	CXCL10	ENSG00000169245	C-X-C motif chemokine ligand 10 Source HGNC Symbol Acc HGNC 10637
C01	SBH1219941	ENST00000408954.8	DAPK1	ENSG00000196730	death associated protein kinase 1 Source HGNC Symbol Acc HGNC 2674
C02	SBH0032244	ENST00000396505.6	DKK3	ENSG00000050165	dickkopf WNT signaling pathway inhibitor 3 Source HGNC Symbol Acc HGNC 2893
C03	SBH0650766	ENST00000510318.5	DLC1	ENSG00000164741	DLC1 Rho GTPase activating protein Source HGNC Symbol Acc HGNC 2897
C04	SBH0457320	ENST00000518773.1	EGR3	ENSG00000179388	early growth response 3 Source HGNC Symbol Acc HGNC 3240
C05	SBH0170113	ENST00000374005.8	FGR	ENSG00000000938	FGR proto-oncogene, Src family tyrosine kinase Source HGNC Symbol Acc HGNC 3697
C06	SBH0089051	ENST00000406360.2	FOXO3	ENSG00000118689	forkhead box O3 Source HGNC Symbol Acc HGNC 3821
C07	SBH0539465	ENST00000537247.5	GAS2L3	ENSG00000139354	growth arrest specific 2 like 3 Source HGNC Symbol Acc HGNC 27475
C08	SBH0536812	ENST00000651144.1	GATA1	ENSG00000102145	GATA binding protein 1 Source HGNC Symbol Acc HGNC 4170
C09	SBH1220038	ENST00000392563.5	GRB2	ENSG00000177885	growth factor receptor bound protein 2 Source HGNC Symbol Acc HGNC 4566
C10	SBH0331584	ENST00000375862.6	HCK	ENSG00000101336	HCK proto-oncogene, Src family tyrosine kinase Source HGNC Symbol Acc HGNC 4840
		ENST00000472		ENSG000000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH0527067	928.5	HDAC1	116478	histone deacetylase 1 Source HGNC Symbol Acc HGNC 4852
C12	SBH0170404	ENST00000571875.2	HIC1	ENSG00000177374	HIC ZBTB transcriptional repressor 1 Source HGNC Symbol Acc HGNC 4909
D01	SBH0323386	ENST00000334701.11	HSP90AA1	ENSG00000080824	heat shock protein 90 alpha family class A member 1 Source HGNC Symbol Acc HGNC 5253
D02	SBH0388912	ENST00000276927.2	IFNA1	ENSG00000197919	interferon alpha 1 Source HGNC Symbol Acc HGNC 5417
D03	SBH0374610	ENST00000348427.7	IKZF3	ENSG00000161405	IKAROS family zinc finger 3 Source HGNC Symbol Acc HGNC 13178
D04	SBH1220095	ENST00000423557.1	IL10	ENSG00000136634	interleukin 10 Source HGNC Symbol Acc HGNC 5962
D05	SBH1220098	ENST00000305579.7	IL12A	ENSG00000168811	interleukin 12A Source HGNC Symbol Acc HGNC 5969
D06	SBH1220104	ENST00000424272.5	IL1R1	ENSG00000115594	interleukin 1 receptor type 1 Source HGNC Symbol Acc HGNC 5993
D07	SBH1220109	ENST00000350025.2	IL4	ENSG00000113520	interleukin 4 Source HGNC Symbol Acc HGNC 6014
D08	SBH1220111	ENST00000401630.7	IL6	ENSG00000136244	interleukin 6 Source HGNC Symbol Acc HGNC 6018
D09	SBH1219932	ENST00000401931.1	CXCL8	ENSG00000169429	C-X-C motif chemokine ligand 8 Source HGNC Symbol Acc HGNC 6025
D10	SBH0334185	ENST00000381652.3	JAK2	ENSG00000096968	Janus kinase 2 Source HGNC Symbol Acc HGNC 6192
D11	SBH0613340	ENST00000371222.3	JUN	ENSG00000177606	Jun proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 6204
D12	SBH1220143	ENST00000302754.6	JUNB	ENSG00000171223	JunB proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 6205
E01	SBH0463167	ENST00000428101.6	LMO1	ENSG00000166407	LIM domain only 1 Source HGNC Symbol Acc HGNC 6641
E02	SBH0608405	ENST00000411482.1	LMO2	ENSG00000135363	LIM domain only 2 Source HGNC Symbol Acc HGNC 6642
E03	SBH0123325	ENST00000590974.1	LYL1	ENSG00000104903	LYL1, basic helix-loop-helix family member Source HGNC Symbol Acc HGNC 6734
E04	SBH1220199	ENST00000620947.4	MCL1	ENSG00000143384	MCL1, BCL2 family apoptosis regulator Source HGNC Symbol Acc HGNC 6943
E05	SBH0108816	ENST00000488550.5	MEIS1	ENSG00000143995	Meis homeobox 1 Source HGNC Symbol Acc HGNC 7000
E06	SBH0627112	ENST00000439966.5	MERTK	ENSG00000153208	MER proto-oncogene, tyrosine kinase Source HGNC Symbol Acc HGNC 7027
E07	SBH0236577	ENST00000231790.6	MLH1	ENSG00000076242	mutL homolog 1 Source HGNC Symbol Acc HGNC 7127
E08	SBH0191175	ENST00000424656.1	MN1	ENSG00000169184	MN1 proto-oncogene, transcriptional regulator Source HGNC Symbol Acc HGNC 7180
E09	SBH0492696	ENST00000361445.8	MTOR	ENSG00000198793	mechanistic target of rapamycin kinase Source HGNC Symbol Acc HGNC 3942
E10	SBH1220264	ENST00000651197.1	NFKB1	ENSG00000109320	nuclear factor kappa B subunit 1 Source HGNC Symbol Acc HGNC 7794
E11	SBH0422996	ENST00000521672.5	NPM1	ENSG00000181163	nucleophosmin 1 Source HGNC Symbol Acc HGNC 7910
E12	SBH0467547	ENST00000395097.7	NR4A3	ENSG00000119508	nuclear receptor subfamily 4 group A member 3 Source HGNC Symbol Acc HGNC 7982
F01	SBH0001765	ENST00000268058.7	PML	ENSG00000140464	promyelocytic leukemia Source HGNC Symbol Acc HGNC 9113
F02	SBH0521170	ENST00000472066.1	PRKCB	ENSG00000166501	protein kinase C beta Source HGNC Symbol Acc HGNC 9395
F03	SBH1225378	ENST00000371953.8	PTEN	ENSG00000171862	phosphatase and tensin homolog Source HGNC Symbol Acc HGNC 9588
F04	SBH0241764	ENST00000249071.11	RAC2	ENSG00000128340	Rac family small GTPase 2 Source HGNC Symbol Acc HGNC 9802
F05	SBH0584162	ENST00000513991.5	RGS12	ENSG00000159788	regulator of G protein signaling 12 Source HGNC Symbol Acc HGNC 9994
F06	SBH0384721	ENST00000437180.5	RUNX1	ENSG00000159216	runt related transcription factor 1 Source HGNC Symbol Acc HGNC 10471
F07	SBH0662907	ENST00000465038.6	RUNX2	ENSG00000124813	runt related transcription factor 2 Source HGNC Symbol Acc HGNC 10472
F08	SBH0602622	ENST00000496967.1	RUNX3	ENSG00000102063	runt related transcription factor 3 Source HGNC Symbol Acc HGNC 10473
F09	SBH0113874	ENST00000274063.5	SFRP2	ENSG00000145423	secreted frizzled related protein 2 Source HGNC Symbol Acc HGNC 10777
F10	SBH1220395	ENST00000436072.7	SFRP4	ENSG00000106483	secreted frizzled related protein 4 Source HGNC Symbol Acc HGNC 10778

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH0594707	ENST00000266066.4	SFRP5	ENSG00000120057	secreted frizzled related protein 5 Source HGNC Symbol Acc HGNC 10779
F12	SBH0510346	ENST00000368450.5	SHC1	ENSG00000160691	SHC adaptor protein 1 Source HGNC Symbol Acc HGNC 10840
G01	SBH0217804	ENST00000462420.2	SMO	ENSG00000128602	smoothened, frizzled class receptor Source HGNC Symbol Acc HGNC 11119
G02	SBH1220412	ENST00000644787.1	SOCS1	ENSG00000185338	suppressor of cytokine signaling 1 Source HGNC Symbol Acc HGNC 19383
G03	SBH0231963	ENST00000378538.7	SPI1	ENSG00000066336	Spi-1 proto-oncogene Source HGNC Symbol Acc HGNC 11241
G04	SBH0333289	ENST00000361099.7	STAT1	ENSG00000115415	signal transducer and activator of transcription 1 Source HGNC Symbol Acc HGNC 11362
G05	SBH0341614	ENST00000404395.3	STAT3	ENSG00000168610	signal transducer and activator of transcription 3 Source HGNC Symbol Acc HGNC 11364
G06	SBH0335854	ENST00000345506.8	STAT5A	ENSG00000126561	signal transducer and activator of transcription 5A Source HGNC Symbol Acc HGNC 11366
G07	SBH0472958	ENST00000481253.2	STAT5B	ENSG00000173757	signal transducer and activator of transcription 5B Source HGNC Symbol Acc HGNC 11367
G08	SBH0276450	ENST00000294339.3	TAL1	ENSG00000162367	TAL bHLH transcription factor 1, erythroid differentiation factor Source HGNC Symbol Acc HGNC 11556
G09	SBH0521415	ENST00000463716.3	TLX1	ENSG00000107807	T cell leukemia homeobox 1 Source HGNC Symbol Acc HGNC 5056
G10	SBH0122434	ENST00000296921.6	TLX3	ENSG00000164438	T cell leukemia homeobox 3 Source HGNC Symbol Acc HGNC 13532
G11	SBH1220486	ENST00000445888.6	TP53	ENSG00000141510	tumor protein p53 Source HGNC Symbol Acc HGNC 11998
G12	SBH1220525	ENST00000286574.9	WIF1	ENSG00000156076	WNT inhibitory factor 1 Source HGNC Symbol Acc HGNC 18081
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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