

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

## Human MYC Targets

Cat. no. 249950 SBHS-177ZA

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 (96-well): QuantiNova LNA PCR Focus Panel

For the 384-well (4 × 96) PCR panels, genes are present in a staggered format. 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	AIMP2	APEX1	ATF4	BAX	BCAT1	CAD	CBX3	CCNB1	CCND2	CCT5	CDC25A	CDK4
B	CDKN1B	CDKN2B	CHEK1	CKS2	YBX3	CSDE1	CSTB	CTSC	DDX10	DDX39B	DKC1	E2F1
C	EIF4A1	EIF4B	EIF4E	ENO1	EXOSC8	FASN	GCLC	GNL3	HK2	HNRNPA1	HNRNPA2B1	ID3
D	ILK	ITGB1	LTA4H	MAT2A	MAX	MAZ	MGST1	MSH2	MTHFD1	MYC	MYCL	MYCN
E	NAP1L1	NBN	NCL	NME1	NOLC1	NPM1	ODC1	PA2G4	PAICS	PCNA	PDK1	PHB
F	PIAS2	POLD2	PPAT	PTPA	PSMG1	PTEN	PYCR1	RPL13	RPL19	RPL23	RPL27A	RPL5
G	RPS5	SHMT1	SNRPB	SRM	SRSF1	TERT	TOP1	TP53	TP1	TYMS	UBE2C	ZFP36L1
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	SBH0570869	ENST00000400479.6	AIMP2	ENSG00000106305	aminoacyl tRNA synthetase complex interacting multifunctional protein 2 Source HGNC Symbol Acc HGNC 20609
A02	SBH0279561	ENST00000555414.5	APEX1	ENSG00000100823	apurinic/apyrimidinic endodeoxyribonuclease 1 Source HGNC Symbol Acc HGNC 587
A03	SBH1219754	ENST00000404241.6	ATF4	ENSG00000128272	activating transcription factor 4 Source HGNC Symbol Acc HGNC 786
A04	SBH1219783	ENST00000391871.4	BAX	ENSG00000087088	BCL2 associated X, apoptosis regulator Source HGNC Symbol Acc HGNC 959
A05	SBH0441341	ENST00000544418.1	BCAT1	ENSG00000060982	branched chain amino acid transaminase 1 Source HGNC Symbol Acc HGNC 976
A06	SBH0040523	ENST00000491891.1	CAD	ENSG00000084774	carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase Source HGNC Symbol Acc HGNC 1424
A07	SBH0226710	ENST00000462165.2	CBX3	ENSG00000122565	chromobox 3 Source HGNC Symbol Acc HGNC 1553
A08	SBH1219842	ENST00000256442.10	CCNB1	ENSG00000134057	cyclin B1 Source HGNC Symbol Acc HGNC 1579
A09	SBH1219845	ENST00000261254.8	CCND2	ENSG00000118971	cyclin D2 Source HGNC Symbol Acc HGNC 1583
A10	SBH0482048	ENST00000625723.1	CCT5	ENSG00000150753	chaperonin containing TCP1 subunit 5 Source HGNC Symbol Acc HGNC 1618
A11	SBH0437013	ENST00000302506.7	CDC25A	ENSG00000164045	cell division cycle 25A Source HGNC Symbol Acc HGNC 1725
A12	SBH1219873	ENST00000547281.5	CDK4	ENSG00000135446	cyclin dependent kinase 4 Source HGNC Symbol Acc HGNC 1773
B01	SBH1219879	ENST00000442489.1	CDKN1B	ENSG00000111276	cyclin dependent kinase inhibitor 1B Source HGNC Symbol Acc HGNC 1785
B02	SBH1219880	ENST00000276925.7	CDKN2B	ENSG00000147883	cyclin dependent kinase inhibitor 2B Source HGNC Symbol Acc HGNC 1788
B03	SBH1219885	ENST00000534070.5	CHEK1	ENSG00000149554	checkpoint kinase 1 Source HGNC Symbol Acc HGNC 1925
B04	SBH0514674	ENST00000314355.7	CKS2	ENSG00000123975	CDC28 protein kinase regulatory subunit 2 Source HGNC Symbol Acc HGNC 2000
B05	SBH0354946	ENST00000542641.5	YBX3	ENSG00000060138	Y-box binding protein 3 Source HGNC Symbol Acc HGNC 2428
B06	SBH0601361	ENST00000483030.1	CSDE1	ENSG00000009307	cold shock domain containing E1 Source HGNC Symbol Acc HGNC 29905
B07	SBH0397711	ENST00000640406.1	CSTB	ENSG00000160213	cystatin B Source HGNC Symbol Acc HGNC 2482
B08	SBH0092572	ENST00000533865.5	CTSC	ENSG00000109861	cathepsin C Source HGNC Symbol Acc HGNC 2528
B09	SBH0624263	ENST00000526794.1	DDX10	ENSG00000178105	DEAD-box helicase 10 Source HGNC Symbol Acc HGNC 2735
B10	SBH0376199	ENST00000456662.5	DDX39B	ENSG00000198563	DEAD-box helicase 39B Source HGNC Symbol Acc HGNC 13917
B11	SBH1219951	ENST00000369550.10	DKC1	ENSG00000130826	dyskerin pseudouridine synthase 1 Source HGNC Symbol Acc HGNC 2890
B12	SBH1219965	ENST00000343380.6	E2F1	ENSG00000101412	E2F transcription factor 1 Source HGNC Symbol Acc HGNC 3113
C01	SBH0046966	ENST00000581770.5	EIF4A1	ENSG00000161960	eukaryotic translation initiation factor 4A1 Source HGNC Symbol Acc HGNC 3282
C02	SBH0328103	ENST00000549077.5	EIF4B	ENSG00000063046	eukaryotic translation initiation factor 4B Source HGNC Symbol Acc HGNC 3285
C03	SBH0565938	ENST00000505992.1	EIF4E	ENSG00000151247	eukaryotic translation initiation factor 4E Source HGNC Symbol Acc HGNC 3287
C04	SBH0555349	ENST00000234590.10	ENO1	ENSG00000074800	enolase 1 Source HGNC Symbol Acc HGNC 3350
C05	SBH0289281	ENST00000490537.6	EXOSC8	ENSG00000120699	exosome component 8 Source HGNC Symbol Acc HGNC 17035
C06	SBH0282662	ENST00000635197.1	FASN	ENSG00000169710	fatty acid synthase Source HGNC Symbol Acc HGNC 3594
C07	SBH0482856	ENST00000229416.10	GCLC	ENSG00000001084	glutamate-cysteine ligase catalytic subunit Source HGNC Symbol Acc HGNC 4311
C08	SBH0020735	ENST00000492349.5	GNL3	ENSG00000163938	G protein nucleolar 3 Source HGNC Symbol Acc HGNC 29931
C09	SBH0186371	ENST00000290573.6	HK2	ENSG00000159399	hexokinase 2 Source HGNC Symbol Acc HGNC 4923
C10	SBH0294681	ENST00000551803.1	HNRNPA1	ENSG00000135486	heterogeneous nuclear ribonucleoprotein A1 Source HGNC Symbol Acc HGNC 5031
		ENST000003360	HNRNPA2B	ENSG000000	heterogeneous nuclear ribonucleoprotein A2/B1 Source HGNC Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH0271357	787.8	1	122566	HGNC 5033
C12	SBH0013538	ENST00000374561.6	ID3	ENSG00000117318	inhibitor of DNA binding 3, HLH protein Source HGNC Symbol Acc HGNC 5362
D01	SBH0381135	ENST00000299421.8	ILK	ENSG00000166333	integrin linked kinase Source HGNC Symbol Acc HGNC 6040
D02	SBH1220136	ENST00000302278.8	ITGB1	ENSG00000150093	integrin subunit beta 1 Source HGNC Symbol Acc HGNC 6153
D03	SBH0244991	ENST00000552789.5	LTA4H	ENSG00000111144	leukotriene A4 hydrolase Source HGNC Symbol Acc HGNC 6710
D04	SBH0001344	ENST00000306434.8	MAT2A	ENSG00000168906	methionine adenosyltransferase 2A Source HGNC Symbol Acc HGNC 6904
D05	SBH0511192	ENST00000554709.1	MAX	ENSG00000125952	MYC associated factor X Source HGNC Symbol Acc HGNC 6913
D06	SBH0359074	ENST00000562337.5	MAZ	ENSG00000103495	MYC associated zinc finger protein Source HGNC Symbol Acc HGNC 6914
D07	SBH0489479	ENST00000396210.8	MGST1	ENSG00000008394	microsomal glutathione S-transferase 1 Source HGNC Symbol Acc HGNC 7061
D08	SBH1220228	ENST00000233146.6	MSH2	ENSG00000095002	mutS homolog 2 Source HGNC Symbol Acc HGNC 7325
D09	SBH0408243	ENST00000553391.2	MTHFD1	ENSG00000100714	methylenetetrahydrofolate dehydrogenase, cyclohydrolase and formyltetrahydrofolate synthetase 1 Source HGNC Symbol Acc HGNC 7432
D10	SBH0426145	ENST00000524013.1	MYC	ENSG00000136997	MYC proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7553
D11	SBH0094042	ENST00000450953.3	MYCL	ENSG00000116990	MYCL proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7555
D12	SBH0020367	ENST00000281043.4	MYCN	ENSG00000134323	MYCN proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7559
E01	SBH0513784	ENST00000548044.5	NAP1L1	ENSG00000187109	nucleosome assembly protein 1 like 1 Source HGNC Symbol Acc HGNC 7637
E02	SBH0220644	ENST00000265433.7	NBN	ENSG00000104320	nibrin Source HGNC Symbol Acc HGNC 7652
E03	SBH0569167	ENST00000322723.9	NCL	ENSG00000115053	nucleolin Source HGNC Symbol Acc HGNC 7667
E04	SBH0310094	ENST00000512768.1	NME1	ENSG00000239672	NME/NM23 nucleoside diphosphate kinase 1 Source HGNC Symbol Acc HGNC 7849
E05	SBH0625541	ENST00000405356.5	NOLC1	ENSG00000166197	nucleolar and coiled-body phosphoprotein 1 Source HGNC Symbol Acc HGNC 15608
E06	SBH0422996	ENST00000521672.5	NPM1	ENSG00000181163	nucleophosmin 1 Source HGNC Symbol Acc HGNC 7910
E07	SBH0286890	ENST00000405333.5	ODC1	ENSG00000115758	ornithine decarboxylase 1 Source HGNC Symbol Acc HGNC 8109
E08	SBH0578804	ENST00000552766.5	PA2G4	ENSG00000170515	proliferation-associated 2G4 Source HGNC Symbol Acc HGNC 8550
E09	SBH0371980	ENST00000505164.5	PAICS	ENSG00000128050	phosphoribosylaminoimidazole carboxylase and phosphoribosylaminoimidazolesuccinocarboxamide synthase Source HGNC Symbol Acc HGNC 8587
E10	SBH0251688	ENST00000379160.3	PCNA	ENSG00000132646	proliferating cell nuclear antigen Source HGNC Symbol Acc HGNC 8729
E11	SBH0017980	ENST00000410055.5	PDK1	ENSG00000152256	pyruvate dehydrogenase kinase 1 Source HGNC Symbol Acc HGNC 8809
E12	SBH0278551	ENST00000504124.5	PHB	ENSG00000167085	prohibitin Source HGNC Symbol Acc HGNC 8912
F01	SBH0433845	ENST0000059212.5	PIAS2	ENSG00000078043	protein inhibitor of activated STAT 2 Source HGNC Symbol Acc HGNC 17311
F02	SBH0641893	ENST00000610533.4	POLD2	ENSG00000106628	DNA polymerase delta 2, accessory subunit Source HGNC Symbol Acc HGNC 9176
F03	SBH0281159	ENST00000507724.1	PPAT	ENSG00000128059	phosphoribosyl pyrophosphate amidotransferase Source HGNC Symbol Acc HGNC 9238
F04	SBH0230240	ENST00000434095.2	PTPA	ENSG00000119383	protein phosphatase 2 phosphatase activator Source HGNC Symbol Acc HGNC 9308
F05	SBH0160012	ENST00000411828.5	PSMG1	ENSG00000183527	proteasome assembly chaperone 1 Source HGNC Symbol Acc HGNC 3043
F06	SBH1225378	ENST00000371953.8	PTEN	ENSG00000171862	phosphatase and tensin homolog Source HGNC Symbol Acc HGNC 9588
F07	SBH0275904	ENST00000579366.5	PYCR1	ENSG00000183010	pyrroline-5-carboxylate reductase 1 Source HGNC Symbol Acc HGNC 9721
F08	SBH0525373	ENST00000563270.5	RPL13	ENSG00000167526	ribosomal protein L13 Source HGNC Symbol Acc HGNC 10303
F09	SBH0477446	ENST00000585199.1	RPL19	ENSG00000108298	ribosomal protein L19 Source HGNC Symbol Acc HGNC 10312
F10	SBH0441642	ENST00000394	RPL23	ENSG000000	ribosomal protein L23 Source HGNC Symbol Acc HGNC 10316

Position	Assay	Name	Symbol	Ensembl ID	Description
		332.5		125691	
F11	SBH0138327	ENST00000525981.1	RPL27A	ENSG00000166441	ribosomal protein L27a Source HGNC Symbol Acc HGNC 10329
F12	SBH0472278	ENST00000645300.1	RPL5	ENSG00000122406	ribosomal protein L5 Source HGNC Symbol Acc HGNC 10360
G01	SBH0034970	ENST00000598807.1	RPS5	ENSG00000083845	ribosomal protein S5 Source HGNC Symbol Acc HGNC 10426
G02	SBH0578141	ENST00000579558.5	SHMT1	ENSG00000176974	serine hydroxymethyltransferase 1 Source HGNC Symbol Acc HGNC 10850
G03	SBH0221189	ENST00000381342.6	SNRPB	ENSG00000125835	small nuclear ribonucleoprotein polypeptides B and B1 Source HGNC Symbol Acc HGNC 11153
G04	SBH0333664	ENST00000376957.7	SRM	ENSG00000116649	spermidine synthase Source HGNC Symbol Acc HGNC 11296
G05	SBH0326873	ENST00000583741.1	SRSF1	ENSG00000136450	serine and arginine rich splicing factor 1 Source HGNC Symbol Acc HGNC 10780
G06	SBH0606096	ENST00000334602.10	TERT	ENSG00000164362	telomerase reverse transcriptase Source HGNC Symbol Acc HGNC 11730
G07	SBH0634119	ENST00000361337.3	TOP1	ENSG00000198900	DNA topoisomerase I Source HGNC Symbol Acc HGNC 11986
G08	SBH1220486	ENST00000445888.6	TP53	ENSG00000141510	tumor protein p53 Source HGNC Symbol Acc HGNC 11998
G09	SBH1220489	ENST00000613953.4	TPI1	ENSG00000111669	triosephosphate isomerase 1 Source HGNC Symbol Acc HGNC 12009
G10	SBH0299788	ENST00000323250.9	TYMS	ENSG00000176890	thymidylate synthetase Source HGNC Symbol Acc HGNC 12441
G11	SBH0549489	ENST00000243893.10	UBE2C	ENSG00000175063	ubiquitin conjugating enzyme E2 C Source HGNC Symbol Acc HGNC 15937
G12	SBH0346152	ENST00000439696.2	ZFP36L1	ENSG00000185650	ZFP36 ring finger protein like 1 Source HGNC Symbol Acc HGNC 1107
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.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at [www.qiagen.com](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

Trademarks: QIAGEN®, LNA®, QuantiNova®, Sample to Insight® (QIAGEN Group); SYBR® (Life Technologies Corp.). Registered names, trademarks, etc. used in this document, even when not specifically marked as such, are not to be considered unprotected by law.

09/2019 © 2019 QIAGEN, all rights reserved.