

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

## Human TGFb Signaling Targets

Cat. no. 249950 SBHS-235ZA

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	ACTA2	ACVR1	ACVRL1	AGT	AIP1	AR	ATF3	ATF4	BACH1	BCL2L1	BDNF	BHLHE40
B	BRD2	CDC6	CDKN1B	CEBPB	CREB1	CREBBP	CRYAB	CTNNB1	DNAA1	E2F4	EMP1	ENG
C	EP300	EPHB2	FN1	FOS	FURIN	GADD45B	GLI2	GTF2I	HERPUD1	HES1	HEY1	HMOX1
D	ID1	ID2	ID3	IFRD1	IL10	KLF10	MAP3K7	MAPK14	MAPK8	MBD1	MMP2	MSX2
E	MYC	MYOD1	NFIB	NFKBIA	NOTCH1	PDGFA	PLG	PPARA	PTGS2	PTHLH	PTK2	PTK2B
F	RAD21	RARA	RBL1	RHOA	RHOB	RUNX1	RYBP	S100A8	SERPINE1	SHH	SMAD1	SMAD3
G	SMAD5	SMAD6	SNAI1	SOX4	SP1	SREBF2	TGFB2	TGFB2	THBS1	TNFSF10	TXNIP	VEGFA
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	SBH0247260	ENST00000224784.10	ACTA2	ENSG00000107796	actin, alpha 2, smooth muscle, aorta Source HGNC Symbol Acc HGNC 130
A02	SBH0054194	ENST00000263640.7	ACVR1	ENSG00000115170	activin A receptor type 1 Source HGNC Symbol Acc HGNC 171
A03	SBH0294610	ENST00000388922.8	ACVRL1	ENSG00000139567	activin A receptor like type 1 Source HGNC Symbol Acc HGNC 175
A04	SBH1219729	ENST00000366667.5	AGT	ENSG00000135744	angiotensinogen Source HGNC Symbol Acc HGNC 333
A05	SBH0130519	ENST00000250087.9	AIPL1	ENSG00000129221	aryl hydrocarbon receptor interacting protein like 1 Source HGNC Symbol Acc HGNC 359
A06	SBH0056376	ENST00000374690.8	AR	ENSG00000169083	androgen receptor Source HGNC Symbol Acc HGNC 644
A07	SBH0266951	ENST00000366983.5	ATF3	ENSG00000162772	activating transcription factor 3 Source HGNC Symbol Acc HGNC 785
A08	SBH1219754	ENST00000404241.6	ATF4	ENSG00000128272	activating transcription factor 4 Source HGNC Symbol Acc HGNC 786
A09	SBH0285588	ENST00000435072.1	BACH1	ENSG00000156273	BTB domain and CNC homolog 1 Source HGNC Symbol Acc HGNC 935
A10	SBH0216029	ENST00000450273.1	BCL2L1	ENSG00000171552	BCL2 like 1 Source HGNC Symbol Acc HGNC 992
A11	SBH0006040	ENST00000525528.1	BDNF	ENSG00000176697	brain derived neurotrophic factor Source HGNC Symbol Acc HGNC 1033
A12	SBH0192838	ENST00000467610.1	BHLHE40	ENSG00000134107	basic helix-loop-helix family member e40 Source HGNC Symbol Acc HGNC 1046
B01	SBH0077380	ENST00000481259.1	BRD2	ENSG00000204256	bromodomain containing 2 Source HGNC Symbol Acc HGNC 1103
B02	SBH1219868	ENST00000209728.9	CDC6	ENSG00000094804	cell division cycle 6 Source HGNC Symbol Acc HGNC 1744
B03	SBH1219879	ENST00000442489.1	CDKN1B	ENSG00000111276	cyclin dependent kinase inhibitor 1B Source HGNC Symbol Acc HGNC 1785
B04	SBH0569983	ENST00000303004.4	CEBPB	ENSG00000172216	CCAAT enhancer binding protein beta Source HGNC Symbol Acc HGNC 1834
B05	SBH0077258	ENST00000353267.8	CREB1	ENSG00000118260	cAMP responsive element binding protein 1 Source HGNC Symbol Acc HGNC 2345
B06	SBH0411189	ENST00000571826.5	CREBBP	ENSG00000005339	CREB binding protein Source HGNC Symbol Acc HGNC 2348
B07	SBH0502900	ENST00000531198.5	CRYAB	ENSG00000109846	crystallin alpha B Source HGNC Symbol Acc HGNC 2389
B08	SBH0588482	ENST00000396183.7	CTNNB1	ENSG00000168036	catenin beta 1 Source HGNC Symbol Acc HGNC 2514
B09	SBH0127774	ENST00000330899.5	DNAJA1	ENSG00000086061	DnaJ heat shock protein family (Hsp40) member A1 Source HGNC Symbol Acc HGNC 5229
B10	SBH1219966	ENST00000379378.8	E2F4	ENSG00000205250	E2F transcription factor 4 Source HGNC Symbol Acc HGNC 3118
B11	SBH1219974	ENST00000396301.7	EMP1	ENSG00000134531	epithelial membrane protein 1 Source HGNC Symbol Acc HGNC 3333
B12	SBH1219975	ENST00000480266.5	ENG	ENSG00000106991	endoglin Source HGNC Symbol Acc HGNC 3349
C01	SBH1219977	ENST00000263253.9	EP300	ENSG00000100393	E1A binding protein p300 Source HGNC Symbol Acc HGNC 3373
C02	SBH0232284	ENST00000490436.1	EPHB2	ENSG00000133216	EPH receptor B2 Source HGNC Symbol Acc HGNC 3393
C03	SBH1220003	ENST00000354785.9	FN1	ENSG00000115414	fibronectin 1 Source HGNC Symbol Acc HGNC 3778
C04	SBH1220004	ENST00000554617.1	FOS	ENSG00000170345	Fos proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 3796
C05	SBH0037071	ENST00000268171.8	FURIN	ENSG00000140564	furin, paired basic amino acid cleaving enzyme Source HGNC Symbol Acc HGNC 8568
C06	SBH1220020	ENST00000587345.1	GADD45B	ENSG00000099860	growth arrest and DNA damage inducible beta Source HGNC Symbol Acc HGNC 4096
C07	SBH0023726	ENST00000452692.5	GLI2	ENSG00000074047	GLI family zinc finger 2 Source HGNC Symbol Acc HGNC 4318
C08	SBH0173406	ENST00000620879.4	GTF2I	ENSG00000263001	general transcription factor Iii Source HGNC Symbol Acc HGNC 4659
C09	SBH1220053	ENST00000563343.5	HERPUD1	ENSG00000051108	homocysteine inducible ER protein with ubiquitin like domain 1 Source HGNC Symbol Acc HGNC 13744
C10	SBH1220054	ENST00000232424.4	HES1	ENSG00000114315	hes family bHLH transcription factor 1 Source HGNC Symbol Acc HGNC 5192
		ENST00000518		ENSG000000	hes related family bHLH transcription factor with YRPW motif 1 Source HGNC

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH1220056	733.1	HEY1	164683	Symbol Acc HGNC 4880
C12	SBH1220067	ENST00000216117.9	HMOX1	ENSG00000100292	heme oxygenase 1 Source HGNC Symbol Acc HGNC 5013
D01	SBH1220077	ENST000000376112.4	ID1	ENSG00000125968	inhibitor of DNA binding 1, HLH protein Source HGNC Symbol Acc HGNC 5360
D02	SBH0320623	ENST00000234091.8	ID2	ENSG00000115738	inhibitor of DNA binding 2 Source HGNC Symbol Acc HGNC 5361
D03	SBH0013538	ENST000000374561.6	ID3	ENSG00000117318	inhibitor of DNA binding 3, HLH protein Source HGNC Symbol Acc HGNC 5362
D04	SBH0304341	ENST000000535603.5	IFRD1	ENSG00000006652	interferon related developmental regulator 1 Source HGNC Symbol Acc HGNC 5456
D05	SBH1220095	ENST000000423557.1	IL10	ENSG00000136634	interleukin 10 Source HGNC Symbol Acc HGNC 5962
D06	SBH0223155	ENST000000285407.11	KLF10	ENSG00000155090	Kruppel like factor 10 Source HGNC Symbol Acc HGNC 11810
D07	SBH1220191	ENST000000369329.8	MAP3K7	ENSG00000135341	mitogen-activated protein kinase kinase kinase 7 Source HGNC Symbol Acc HGNC 6859
D08	SBH0102441	ENST000000229795.7	MAPK14	ENSG00000112062	mitogen-activated protein kinase 14 Source HGNC Symbol Acc HGNC 6876
D09	SBH0294318	ENST000000395611.7	MAPK8	ENSG00000107643	mitogen-activated protein kinase 8 Source HGNC Symbol Acc HGNC 6881
D10	SBH0504637	ENST000000457839.6	MBD1	ENSG00000141644	methyl-CpG binding domain protein 1 Source HGNC Symbol Acc HGNC 6916
D11	SBH1220222	ENST000000570308.5	MMP2	ENSG00000087245	matrix metalloproteinase 2 Source HGNC Symbol Acc HGNC 7166
D12	SBH0031791	ENST000000239243.7	MSX2	ENSG00000120149	msh homeobox 2 Source HGNC Symbol Acc HGNC 7392
E01	SBH0426145	ENST000000524013.1	MYC	ENSG00000136997	MYC proto-oncogene, bHLH transcription factor Source HGNC Symbol Acc HGNC 7553
E02	SBH0342665	ENST000000250003.4	MYOD1	ENSG00000129152	myogenic differentiation 1 Source HGNC Symbol Acc HGNC 7611
E03	SBH0249781	ENST000000636063.1	NFIB	ENSG00000147862	nuclear factor I B Source HGNC Symbol Acc HGNC 7785
E04	SBH0552847	ENST000000216797.9	NFKBIA	ENSG00000100906	NFKB inhibitor alpha Source HGNC Symbol Acc HGNC 7797
E05	SBH0615258	ENST000000277541.7	NOTCH1	ENSG00000148400	notch 1 Source HGNC Symbol Acc HGNC 7881
E06	SBH0498934	ENST000000354513.9	PDGFA	ENSG00000197461	platelet derived growth factor subunit A Source HGNC Symbol Acc HGNC 8799
E07	SBH0191454	ENST000000308192.13	PLG	ENSG00000122194	plasminogen Source HGNC Symbol Acc HGNC 9071
E08	SBH1220322	ENST000000407236.5	PPARA	ENSG00000186951	peroxisome proliferator activated receptor alpha Source HGNC Symbol Acc HGNC 9232
E09	SBH1220344	ENST000000367468.10	PTGS2	ENSG00000073756	prostaglandin-endoperoxide synthase 2 Source HGNC Symbol Acc HGNC 9605
E10	SBH0117493	ENST000000395868.7	PTH1H	ENSG00000087494	parathyroid hormone like hormone Source HGNC Symbol Acc HGNC 9607
E11	SBH1220345	ENST000000523539.5	PTK2	ENSG00000169398	protein tyrosine kinase 2 Source HGNC Symbol Acc HGNC 9611
E12	SBH0358159	ENST000000521164.5	PTK2B	ENSG00000120899	protein tyrosine kinase 2 beta Source HGNC Symbol Acc HGNC 9612
F01	SBH0541159	ENST000000297338.6	RAD21	ENSG00000164754	RAD21 cohesin complex component Source HGNC Symbol Acc HGNC 9811
F02	SBH0530002	ENST000000425707.7	RARA	ENSG00000131759	retinoic acid receptor alpha Source HGNC Symbol Acc HGNC 9864
F03	SBH1220360	ENST000000344359.7	RBL1	ENSG00000080839	RB transcriptional corepressor like 1 Source HGNC Symbol Acc HGNC 9893
F04	SBH1220367	ENST000000418115.6	RHOA	ENSG00000067560	ras homolog family member A Source HGNC Symbol Acc HGNC 667
F05	SBH0318552	ENST000000272233.5	RHOB	ENSG00000143878	ras homolog family member B Source HGNC Symbol Acc HGNC 668
F06	SBH0384721	ENST000000437180.5	RUNX1	ENSG00000159216	runt related transcription factor 1 Source HGNC Symbol Acc HGNC 10471
F07	SBH0638457	ENST000000477973.3	RYBP	ENSG00000163602	RING1 and YY1 binding protein Source HGNC Symbol Acc HGNC 10480
F08	SBH0133006	ENST000000477801.1	S100A8	ENSG00000143546	S100 calcium binding protein A8 Source HGNC Symbol Acc HGNC 10498
F09	SBH1220389	ENST000000223095.4	SERPINE1	ENSG00000106366	serpin family E member 1 Source HGNC Symbol Acc HGNC 8583
F10	SBH0041689	ENST000000430104.5	SHH	ENSG00000164690	sonic hedgehog signaling molecule Source HGNC Symbol Acc HGNC 10848

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH1220404	ENST00000394092.6	SMAD1	ENSG00000170365	SMAD family member 1 Source HGNC Symbol Acc HGNC 6767
F12	SBH0216540	ENST00000558428.5	SMAD3	ENSG00000166949	SMAD family member 3 Source HGNC Symbol Acc HGNC 6769
G01	SBH1220407	ENST00000545279.6	SMAD5	ENSG00000113658	SMAD family member 5 Source HGNC Symbol Acc HGNC 6771
G02	SBH1220408	ENST00000558937.1	SMAD6	ENSG00000137834	SMAD family member 6 Source HGNC Symbol Acc HGNC 6772
G03	SBH1220409	ENST00000244050.3	SNAI1	ENSG00000124216	snail family transcriptional repressor 1 Source HGNC Symbol Acc HGNC 11128
G04	SBH1220418	ENST00000244745.3	SOX4	ENSG00000124766	SRY-box 4 Source HGNC Symbol Acc HGNC 11200
G05	SBH1220419	ENST00000426431.2	SP1	ENSG00000185591	Sp1 transcription factor Source HGNC Symbol Acc HGNC 11205
G06	SBH0331510	ENST00000424354.5	SREBF2	ENSG00000198911	sterol regulatory element binding transcription factor 2 Source HGNC Symbol Acc HGNC 11290
G07	SBH1220444	ENST00000366930.9	TGFB2	ENSG00000092969	transforming growth factor beta 2 Source HGNC Symbol Acc HGNC 11768
G08	SBH0598842	ENST00000295754.9	TGFBR2	ENSG00000163513	transforming growth factor beta receptor 2 Source HGNC Symbol Acc HGNC 11773
G09	SBH1220450	ENST00000260356.5	THBS1	ENSG00000137801	thrombospondin 1 Source HGNC Symbol Acc HGNC 11785
G10	SBH1220477	ENST00000241261.7	TNFSF10	ENSG00000121858	TNF superfamily member 10 Source HGNC Symbol Acc HGNC 11925
G11	SBH0485667	ENST00000486597.1	TXNIP	ENSG00000265972	thioredoxin interacting protein Source HGNC Symbol Acc HGNC 16952
G12	SBH0420322	ENST00000425836.6	VEGFA	ENSG00000112715	vascular endothelial growth factor A Source HGNC Symbol Acc HGNC 12680
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.