

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

## Human Osmotic Stress

Cat. no. 249950 SBHS-151ZA

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	ABC81	ADM	AGT	AGTR1	AKR1B1	AKT1	AQP1	AQP2	AQP3	AQP4	AQP5	AQP9
B	ATF4	ATP1A1	ATP1B1	AVP	CALR	CD9	CFTR	CRYAB	CCN2	DDIT3	DUSP1	EDN1
C	EGFR	EGR1	EGR3	FOS	GADD45A	GADD45B	GADD45G	GUCA2A	HMOX1	HSP90AA1	HSPA1A	HSPA4
D	HSPA4L	HSPA5	HSPB1	IL1B	CXCL8	INS	ITGB1	JUN	KCNJ1	LCN2	LTB	MAP2K2
E	MAP3K1	MAPK1	MAPK8	MLC1	NFAT5	NFKBIA	NOS3	NPR1	ODC1	OXT	PAK2	PAX2
F	PCK2	PDIA4	PLAT	PTK2	SGK1	SLC14A2	SLC2A1	SLC38A2	SLC5A3	SLC6A12	SLC6A6	SLC9A2
G	SLC9A3	SNAI1	SRC	TAT	TGFA	TNF	TP53	TPM4	TRPV4	VEGFA	VIM	ZFP36L1
H	ACTB	B2M	GAPDH	HRPT1	RPLP0	HGDC	QIC	QIC	QIC	PPC	PPC	PPC

## Gene table: QuantiNova LNA PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	SBH0346091	ENST00000622132.4	ABCB1	ENSG00000085563	ATP binding cassette subfamily B member 1 Source HGNC Symbol Acc HGNC 40
A02	SBH1219728	ENST00000525063.2	ADM	ENSG00000148926	adrenomedullin Source HGNC Symbol Acc HGNC 259
A03	SBH1219729	ENST00000366667.5	AGT	ENSG00000135744	angiotensinogen Source HGNC Symbol Acc HGNC 333
A04	SBH0123687	ENST00000418473.6	AGTR1	ENSG00000144891	angiotensin II receptor type 1 Source HGNC Symbol Acc HGNC 336
A05	SBH1219732	ENST00000285930.9	AKR1B1	ENSG00000085662	aldo-keto reductase family 1 member B Source HGNC Symbol Acc HGNC 381
A06	SBH0095396	ENST00000555528.5	AKT1	ENSG00000142208	AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391
A07	SBH0349409	ENST00000482461.1	AQP1	ENSG00000240583	aquaporin 1 (Colton blood group) Source HGNC Symbol Acc HGNC 633
A08	SBH0594943	ENST00000199280.3	AQP2	ENSG00000167580	aquaporin 2 Source HGNC Symbol Acc HGNC 634
A09	SBH0499223	ENST00000463983.5	AQP3	ENSG00000165272	aquaporin 3 (Gill blood group) Source HGNC Symbol Acc HGNC 636
A10	SBH1219750	ENST00000440832.7	AQP4	ENSG00000171885	aquaporin 4 Source HGNC Symbol Acc HGNC 637
A11	SBH0128715	ENST00000293599.7	AQP5	ENSG00000161798	aquaporin 5 Source HGNC Symbol Acc HGNC 638
A12	SBH0124167	ENST00000558772.5	AQP9	ENSG00000103569	aquaporin 9 Source HGNC Symbol Acc HGNC 643
B01	SBH1219754	ENST00000404241.6	ATF4	ENSG00000128272	activating transcription factor 4 Source HGNC Symbol Acc HGNC 786
B02	SBH0310129	ENST00000418797.5	ATP1A1	ENSG00000163399	ATPase Na <sup>+</sup> /K <sup>+</sup> transporting subunit alpha 1 Source HGNC Symbol Acc HGNC 799
B03	SBH0401516	ENST00000367816.5	ATP1B1	ENSG00000143153	ATPase Na <sup>+</sup> /K <sup>+</sup> transporting subunit beta 1 Source HGNC Symbol Acc HGNC 804
B04	SBH0008216	ENST00000380293.3	AVP	ENSG00000101200	arginine vasopressin Source HGNC Symbol Acc HGNC 894
B05	SBH0031560	ENST00000316448.9	CALR	ENSG00000179218	calreticulin Source HGNC Symbol Acc HGNC 1455
B06	SBH0317803	ENST00000645368.1	CD9	ENSG00000010278	CD9 molecule Source HGNC Symbol Acc HGNC 1709
B07	SBH1219884	ENST00000649406.1	CFTR	ENSG00000001626	cystic fibrosis transmembrane conductance regulator Source HGNC Symbol Acc HGNC 1884
B08	SBH0502900	ENST00000531198.5	CRYAB	ENSG00000109846	crystallin alpha B Source HGNC Symbol Acc HGNC 2389
B09	SBH1219917	ENST00000367976.4	CCN2	ENSG00000118523	cellular communication network factor 2 Source HGNC Symbol Acc HGNC 2500
B10	SBH0602366	ENST00000346473.7	DDIT3	ENSG00000175197	DNA damage inducible transcript 3 Source HGNC Symbol Acc HGNC 2726
B11	SBH1219962	ENST00000239223.4	DUSP1	ENSG00000120129	dual specificity phosphatase 1 Source HGNC Symbol Acc HGNC 3064
B12	SBH1219968	ENST00000379375.6	EDN1	ENSG00000078401	endothelin 1 Source HGNC Symbol Acc HGNC 3176
C01	SBH1219970	ENST00000454757.6	EGFR	ENSG00000146648	epidermal growth factor receptor Source HGNC Symbol Acc HGNC 3236
C02	SBH0290504	ENST00000239938.5	EGR1	ENSG00000120738	early growth response 1 Source HGNC Symbol Acc HGNC 3238
C03	SBH0457320	ENST00000518773.1	EGR3	ENSG00000179388	early growth response 3 Source HGNC Symbol Acc HGNC 3240
C04	SBH1220004	ENST00000554617.1	FOS	ENSG00000170345	Fos proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 3796
C05	SBH1220019	ENST00000370985.4	GADD45A	ENSG00000116717	growth arrest and DNA damage inducible alpha Source HGNC Symbol Acc HGNC 4095
C06	SBH1220020	ENST00000587345.1	GADD45B	ENSG00000099860	growth arrest and DNA damage inducible beta Source HGNC Symbol Acc HGNC 4096
C07	SBH1220021	ENST00000252506.11	GADD45G	ENSG00000130222	growth arrest and DNA damage inducible gamma Source HGNC Symbol Acc HGNC 4097
C08	SBH0265023	ENST00000357001.3	GUCA2A	ENSG00000197273	guanylate cyclase activator 2A Source HGNC Symbol Acc HGNC 4682
C09	SBH1220067	ENST00000216117.9	HMOX1	ENSG00000100292	heme oxygenase 1 Source HGNC Symbol Acc HGNC 5013
C10	SBH0323386	ENST00000334701.11	HSP90AA1	ENSG00000080824	heat shock protein 90 alpha family class A member 1 Source HGNC Symbol Acc HGNC 5253
		ENST000003375		ENSG000000	heat shock protein family A (Hsp70) member 1A Source HGNC Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH0315359	651.6	HSPA1A	204389	HGNC 5232
C12	SBH1220071	ENST00000617074.4	HSPA4	ENSG00000170606	heat shock protein family A (Hsp70) member 4 Source HGNC Symbol Acc HGNC 5237
D01	SBH0513684	ENST00000515262.1	HSPA4L	ENSG00000164070	heat shock protein family A (Hsp70) member 4 like Source HGNC Symbol Acc HGNC 17041
D02	SBH1220072	ENST00000324460.7	HSPA5	ENSG00000044574	heat shock protein family A (Hsp70) member 5 Source HGNC Symbol Acc HGNC 5238
D03	SBH0474094	ENST00000429938.1	HSPB1	ENSG00000106211	heat shock protein family B (small) member 1 Source HGNC Symbol Acc HGNC 5246
D04	SBH0079231	ENST00000263341.6	IL1B	ENSG00000125538	interleukin 1 beta Source HGNC Symbol Acc HGNC 5992
D05	SBH1219932	ENST00000401931.1	CXCL8	ENSG00000169429	C-X-C motif chemokine ligand 8 Source HGNC Symbol Acc HGNC 6025
D06	SBH0403664	ENST00000250971.7	INS	ENSG00000254647	insulin Source HGNC Symbol Acc HGNC 6081
D07	SBH1220136	ENST00000302278.8	ITGB1	ENSG00000150093	integrin subunit beta 1 Source HGNC Symbol Acc HGNC 6153
D08	SBH0613340	ENST00000371222.3	JUN	ENSG00000177606	Jun proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 6204
D09	SBH0426843	ENST00000324036.7	KCNJ1	ENSG00000151704	potassium voltage-gated channel subfamily J member 1 Source HGNC Symbol Acc HGNC 6255
D10	SBH0084573	ENST00000494317.1	LCN2	ENSG00000148346	lipocalin 2 Source HGNC Symbol Acc HGNC 6526
D11	SBH1220578	ENST00000429299.2	LTB	ENSG00000227507	lymphotoxin beta Source HGNC Symbol Acc HGNC 6711
D12	SBH0516649	ENST00000394867.8	MAP2K2	ENSG00000126934	mitogen-activated protein kinase kinase 2 Source HGNC Symbol Acc HGNC 6842
E01	SBH1220190	ENST00000399503.4	MAP3K1	ENSG00000095015	mitogen-activated protein kinase kinase kinase 1 Source HGNC Symbol Acc HGNC 6848
E02	SBH1220192	ENST00000544786.1	MAPK1	ENSG00000100030	mitogen-activated protein kinase 1 Source HGNC Symbol Acc HGNC 6871
E03	SBH0294318	ENST00000395611.7	MAPK8	ENSG00000107643	mitogen-activated protein kinase 8 Source HGNC Symbol Acc HGNC 6881
E04	SBH0176501	ENST00000470008.1	MLC1	ENSG00000100427	megalencephalic leukoencephalopathy with subcortical cysts 1 Source HGNC Symbol Acc HGNC 17082
E05	SBH1220263	ENST00000354436.6	NFAT5	ENSG00000102908	nuclear factor of activated T cells 5 Source HGNC Symbol Acc HGNC 7774
E06	SBH0552847	ENST00000216797.9	NFKBIA	ENSG00000100906	NFKB inhibitor alpha Source HGNC Symbol Acc HGNC 7797
E07	SBH1220272	ENST00000297494.8	NOS3	ENSG00000164867	nitric oxide synthase 3 Source HGNC Symbol Acc HGNC 7876
E08	SBH1220278	ENST00000368680.4	NPR1	ENSG00000169418	natriuretic peptide receptor 1 Source HGNC Symbol Acc HGNC 7943
E09	SBH0286890	ENST00000405333.5	ODC1	ENSG00000115758	ornithine decarboxylase 1 Source HGNC Symbol Acc HGNC 8109
E10	SBH0466572	ENST00000217386.2	OXT	ENSG00000101405	oxytocin/neurophysin I prepropeptide Source HGNC Symbol Acc HGNC 8528
E11	SBH0516046	ENST00000426668.1	PAK2	ENSG00000180370	p21 (RAC1) activated kinase 2 Source HGNC Symbol Acc HGNC 8591
E12	SBH0372064	ENST00000355243.7	PAX2	ENSG00000075891	paired box 2 Source HGNC Symbol Acc HGNC 8616
F01	SBH0202599	ENST00000560736.5	PCK2	ENSG00000100889	phosphoenolpyruvate carboxykinase 2, mitochondrial Source HGNC Symbol Acc HGNC 8725
F02	SBH0120806	ENST00000286091.9	PDIA4	ENSG00000155660	protein disulfide isomerase family A member 4 Source HGNC Symbol Acc HGNC 30167
F03	SBH0432338	ENST00000220809.8	PLAT	ENSG00000104368	plasminogen activator, tissue type Source HGNC Symbol Acc HGNC 9051
F04	SBH1220345	ENST00000523539.5	PTK2	ENSG00000169398	protein tyrosine kinase 2 Source HGNC Symbol Acc HGNC 9611
F05	SBH0624710	ENST00000528577.5	SGK1	ENSG00000118515	serum/glucocorticoid regulated kinase 1 Source HGNC Symbol Acc HGNC 10810
F06	SBH0341039	ENST00000255226.10	SLC14A2	ENSG00000132874	solute carrier family 14 member 2 Source HGNC Symbol Acc HGNC 10919
F07	SBH0102394	ENST00000426263.8	SLC2A1	ENSG00000117394	solute carrier family 2 member 1 Source HGNC Symbol Acc HGNC 11005
F08	SBH0387577	ENST00000256689.10	SLC38A2	ENSG00000134294	solute carrier family 38 member 2 Source HGNC Symbol Acc HGNC 13448
F09	SBH1220403	ENST00000381151.5	SLC5A3	ENSG00000198743	solute carrier family 5 member 3 Source HGNC Symbol Acc HGNC 11038
F10	SBH0669466	ENST00000424061.6	SLC6A12	ENSG00000111181	solute carrier family 6 member 12 Source HGNC Symbol Acc HGNC 11045

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH0603340	ENST00000622186.4	SLC6A6	ENSG00000131389	solute carrier family 6 member 6 Source HGNC Symbol Acc HGNC 11052
F12	SBH0326389	ENST00000469286.1	SLC9A2	ENSG00000115616	solute carrier family 9 member A2 Source HGNC Symbol Acc HGNC 11072
G01	SBH0386680	ENST00000514375.1	SLC9A3	ENSG00000066230	solute carrier family 9 member A3 Source HGNC Symbol Acc HGNC 11073
G02	SBH1220409	ENST00000244050.3	SNAI1	ENSG00000124216	snail family transcriptional repressor 1 Source HGNC Symbol Acc HGNC 11128
G03	SBH0514958	ENST00000489153.1	SRC	ENSG00000197122	SRC proto-oncogene, non-receptor tyrosine kinase Source HGNC Symbol Acc HGNC 11283
G04	SBH0437274	ENST00000355962.5	TAT	ENSG00000198650	tyrosine aminotransferase Source HGNC Symbol Acc HGNC 11573
G05	SBH1220442	ENST00000445399.5	TGFA	ENSG00000163235	transforming growth factor alpha Source HGNC Symbol Acc HGNC 11765
G06	SBH1220471	ENST00000449264.3	TNF	ENSG00000232810	tumor necrosis factor Source HGNC Symbol Acc HGNC 11892
G07	SBH1220486	ENST00000445888.6	TP53	ENSG00000141510	tumor protein p53 Source HGNC Symbol Acc HGNC 11998
G08	SBH0221383	ENST00000587201.5	TPM4	ENSG00000167460	tropomyosin 4 Source HGNC Symbol Acc HGNC 12013
G09	SBH0120947	ENST00000418703.6	TRPV4	ENSG00000111199	transient receptor potential cation channel subfamily V member 4 Source HGNC Symbol Acc HGNC 18083
G10	SBH0420322	ENST00000425836.6	VEGFA	ENSG00000112715	vascular endothelial growth factor A Source HGNC Symbol Acc HGNC 12680
G11	SBH1220518	ENST00000544301.7	VIM	ENSG00000026025	vimentin Source HGNC Symbol Acc HGNC 12692
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.