

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

## Human Dopamine & Serotonin Pathway

Cat. no. 249950 SBHS-158ZA

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	ADCY1	ADCY2	ADCY3	ADCY5	ADRB1	ADRB2	GRK2	GRK3	AKT1	AKT2	AKT3	ALOX12
B	APP	ARRB1	ARRB2	BDNF	CASP3	CDK5	COMT	CREB1	CYP2D6	DBH	DDC	DRD1
C	DRD2	DRD3	DRD4	DRD5	DUSP1	EPHB1	FOS	GDNF	GFAP	GRK4	GRK5	GRK6
D	GSK3A	GSK3B	HTR1A	HTR1B	HTR1D	HTR1E	HTR1F	HTR2A	HTR2B	HTR2C	HTR3A	HTR3B
E	HTR4	HTR5A	HTR6	HTR7	ITPR1	MAOA	MAOB	MAPK1	NR4A1	NR4A3	PDE10A	PDE4A
F	PDE4B	AC008397.2	PDE4D	PDYN	PIK3CA	PIK3CG	PLA2G5	PLCB1	PLCB2	PLCB3	PPP1R1B	PRKACA
G	PTGS2	SLC18A1	SLC18A2	SLC6A3	SLC6A4	SNCA	SNCAIP	SYN2	TDO2	TH	TPH1	TPH2
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	SBH0029402	ENST00000646653.1	ADCY1	ENSG00000164742	adenylate cyclase 1 Source HGNC Symbol Acc HGNC 232
A02	SBH0531641	ENST00000493243.5	ADCY2	ENSG00000078295	adenylate cyclase 2 Source HGNC Symbol Acc HGNC 233
A03	SBH0625641	ENST00000455323.1	ADCY3	ENSG00000138031	adenylate cyclase 3 Source HGNC Symbol Acc HGNC 234
A04	SBH0330011	ENST00000466617.5	ADCY5	ENSG00000173175	adenylate cyclase 5 Source HGNC Symbol Acc HGNC 236
A05	SBH0305943	ENST00000369295.3	ADRB1	ENSG00000043591	adrenoceptor beta 1 Source HGNC Symbol Acc HGNC 285
A06	SBH0519738	ENST00000305988.5	ADRB2	ENSG00000169252	adrenoceptor beta 2 Source HGNC Symbol Acc HGNC 286
A07	SBH0049742	ENST00000530291.5	GRK2	ENSG00000173020	G protein-coupled receptor kinase 2 Source HGNC Symbol Acc HGNC 289
A08	SBH0193530	ENST0000045558.2	GRK3	ENSG00000100077	G protein-coupled receptor kinase 3 Source HGNC Symbol Acc HGNC 290
A09	SBH0095396	ENST0000055528.5	AKT1	ENSG00000142208	AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391
A10	SBH0364428	ENST00000492463.6	AKT2	ENSG00000105221	AKT serine/threonine kinase 2 Source HGNC Symbol Acc HGNC 392
A11	SBH0031667	ENST00000463991.5	AKT3	ENSG00000117020	AKT serine/threonine kinase 3 Source HGNC Symbol Acc HGNC 393
A12	SBH1219735	ENST00000251535.11	ALOX12	ENSG00000108839	arachidonate 12-lipoxygenase, 12S type Source HGNC Symbol Acc HGNC 429
B01	SBH1219749	ENST00000348990.9	APP	ENSG00000142192	amyloid beta precursor protein Source HGNC Symbol Acc HGNC 620
B02	SBH0254247	ENST00000533609.5	ARRB1	ENSG00000137486	arrestin beta 1 Source HGNC Symbol Acc HGNC 711
B03	SBH0319642	ENST00000574502.5	ARRB2	ENSG00000141480	arrestin beta 2 Source HGNC Symbol Acc HGNC 712
B04	SBH0006040	ENST0000052528.1	BDNF	ENSG00000176697	brain derived neurotrophic factor Source HGNC Symbol Acc HGNC 1033
B05	SBH1219824	ENST00000308394.9	CASP3	ENSG00000164305	caspase 3 Source HGNC Symbol Acc HGNC 1504
B06	SBH0103479	ENST00000485972.6	CDK5	ENSG00000164885	cyclin dependent kinase 5 Source HGNC Symbol Acc HGNC 1774
B07	SBH0154349	ENST00000361682.10	COMT	ENSG00000093010	catechol-O-methyltransferase Source HGNC Symbol Acc HGNC 2228
B08	SBH0077258	ENST00000353267.8	CREB1	ENSG00000118260	cAMP responsive element binding protein 1 Source HGNC Symbol Acc HGNC 2345
B09	SBH0262798	ENST00000359033.4	CYP2D6	ENSG00000100197	cytochrome P450 family 2 subfamily D member 6 Source HGNC Symbol Acc HGNC 2625
B10	SBH0275682	ENST00000393056.7	DBH	ENSG00000123454	dopamine beta-hydroxylase Source HGNC Symbol Acc HGNC 2689
B11	SBH0460522	ENST00000444733.5	DDC	ENSG00000132437	dopa decarboxylase Source HGNC Symbol Acc HGNC 2719
B12	SBH0389175	ENST00000393752.3	DRD1	ENSG00000184845	dopamine receptor D1 Source HGNC Symbol Acc HGNC 3020
C01	SBH0344008	ENST00000535984.1	DRD2	ENSG00000149295	dopamine receptor D2 Source HGNC Symbol Acc HGNC 3023
C02	SBH0383975	ENST00000383673.4	DRD3	ENSG00000151577	dopamine receptor D3 Source HGNC Symbol Acc HGNC 3024
C03	SBH0506443	ENST00000176183.5	DRD4	ENSG00000069696	dopamine receptor D4 Source HGNC Symbol Acc HGNC 3025
C04	SBH0594176	ENST00000304374.3	DRD5	ENSG00000169676	dopamine receptor D5 Source HGNC Symbol Acc HGNC 3026
C05	SBH1219962	ENST00000239223.4	DUSP1	ENSG00000120129	dual specificity phosphatase 1 Source HGNC Symbol Acc HGNC 3064
C06	SBH0371410	ENST00000482618.5	EPHB1	ENSG00000154928	EPH receptor B1 Source HGNC Symbol Acc HGNC 3392
C07	SBH1220004	ENST00000554617.1	FOS	ENSG00000170345	Fos proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 3796
C08	SBH0310916	ENST00000502572.1	GDNF	ENSG00000168621	glial cell derived neurotrophic factor Source HGNC Symbol Acc HGNC 4232
C09	SBH0011470	ENST00000639277.1	GFAP	ENSG00000131095	glial fibrillary acidic protein Source HGNC Symbol Acc HGNC 4235
C10	SBH0613344	ENST00000504308.1	GRK4	ENSG00000125388	G protein-coupled receptor kinase 4 Source HGNC Symbol Acc HGNC 4543
		ENST00000392		ENSG000000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH0470275	870.2	GRK5	198873	G protein-coupled receptor kinase 5 Source HGNC Symbol Acc HGNC 4544
C12	SBH0413448	ENST00000355472.10	GRK6	ENSG00000198055	G protein-coupled receptor kinase 6 Source HGNC Symbol Acc HGNC 4545
D01	SBH1220041	ENST00000222330.8	GSK3A	ENSG00000105723	glycogen synthase kinase 3 alpha Source HGNC Symbol Acc HGNC 4616
D02	SBH0579883	ENST00000316626.5	GSK3B	ENSG00000082701	glycogen synthase kinase 3 beta Source HGNC Symbol Acc HGNC 4617
D03	SBH0493351	ENST00000506598.1	HTR1A	ENSG00000178394	5-hydroxytryptamine receptor 1A Source HGNC Symbol Acc HGNC 5286
D04	SBH0198632	ENST00000369947.4	HTR1B	ENSG00000135312	5-hydroxytryptamine receptor 1B Source HGNC Symbol Acc HGNC 5287
D05	SBH0379050	ENST00000374619.1	HTR1D	ENSG00000179546	5-hydroxytryptamine receptor 1D Source HGNC Symbol Acc HGNC 5289
D06	SBH0372025	ENST00000305344.7	HTR1E	ENSG00000168830	5-hydroxytryptamine receptor 1E Source HGNC Symbol Acc HGNC 5291
D07	SBH0566583	ENST00000319595.5	HTR1F	ENSG00000179097	5-hydroxytryptamine receptor 1F Source HGNC Symbol Acc HGNC 5292
D08	SBH0547087	ENST00000378688.8	HTR2A	ENSG00000102468	5-hydroxytryptamine receptor 2A Source HGNC Symbol Acc HGNC 5293
D09	SBH0390590	ENST00000258400.4	HTR2B	ENSG00000135914	5-hydroxytryptamine receptor 2B Source HGNC Symbol Acc HGNC 5294
D10	SBH0560764	ENST00000371950.3	HTR2C	ENSG00000147246	5-hydroxytryptamine receptor 2C Source HGNC Symbol Acc HGNC 5295
D11	SBH0656917	ENST00000510849.5	HTR3A	ENSG00000166736	5-hydroxytryptamine receptor 3A Source HGNC Symbol Acc HGNC 5297
D12	SBH0219796	ENST00000543092.1	HTR3B	ENSG00000149305	5-hydroxytryptamine receptor 3B Source HGNC Symbol Acc HGNC 5298
E01	SBH0671263	ENST00000521735.5	HTR4	ENSG00000164270	5-hydroxytryptamine receptor 4 Source HGNC Symbol Acc HGNC 5299
E02	SBH0294075	ENST00000287907.3	HTR5A	ENSG00000157219	5-hydroxytryptamine receptor 5A Source HGNC Symbol Acc HGNC 5300
E03	SBH0313684	ENST00000289753.2	HTR6	ENSG00000158748	5-hydroxytryptamine receptor 6 Source HGNC Symbol Acc HGNC 5301
E04	SBH0162397	ENST00000277874.10	HTR7	ENSG00000148680	5-hydroxytryptamine receptor 7 Source HGNC Symbol Acc HGNC 5302
E05	SBH0303285	ENST00000649694.1	ITPR1	ENSG00000150995	inositol 1,4,5-trisphosphate receptor type 1 Source HGNC Symbol Acc HGNC 6180
E06	SBH0491214	ENST00000542639.5	MAOA	ENSG00000189221	monoamine oxidase A Source HGNC Symbol Acc HGNC 6833
E07	SBH0081757	ENST00000487544.1	MAOB	ENSG00000069535	monoamine oxidase B Source HGNC Symbol Acc HGNC 6834
E08	SBH1220192	ENST00000544786.1	MAPK1	ENSG00000100030	mitogen-activated protein kinase 1 Source HGNC Symbol Acc HGNC 6871
E09	SBH0110115	ENST00000550763.1	NR4A1	ENSG00000123358	nuclear receptor subfamily 4 group A member 1 Source HGNC Symbol Acc HGNC 7980
E10	SBH0467547	ENST00000395097.7	NR4A3	ENSG00000119508	nuclear receptor subfamily 4 group A member 3 Source HGNC Symbol Acc HGNC 7982
E11	SBH0470855	ENST00000649273.1	PDE10A	ENSG00000112541	phosphodiesterase 10A Source HGNC Symbol Acc HGNC 8772
E12	SBH0425925	ENST00000440014.6	PDE4A	ENSG00000065989	phosphodiesterase 4A Source NCBI gene Acc 5141
F01	SBH0638095	ENST00000371045.9	PDE4B	ENSG00000184588	phosphodiesterase 4B Source HGNC Symbol Acc HGNC 8781
F02	SBH0636653	ENST00000355502.7	AC008397.2	ENSG00000285188	novel protein
F03	SBH0207204	ENST00000503258.5	PDE4D	ENSG00000113448	phosphodiesterase 4D Source HGNC Symbol Acc HGNC 8783
F04	SBH0477068	ENST00000650824.1	PDYN	ENSG00000101327	prodynorphin Source HGNC Symbol Acc HGNC 8820
F05	SBH0121428	ENST00000462255.1	PIK3CA	ENSG00000121879	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha Source HGNC Symbol Acc HGNC 8975
F06	SBH1220313	ENST00000496166.6	PIK3CG	ENSG00000105851	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit gamma Source HGNC Symbol Acc HGNC 8978
F07	SBH0356964	ENST00000489871.5	PLA2G5	ENSG00000127472	phospholipase A2 group V Source HGNC Symbol Acc HGNC 9038
F08	SBH0605735	ENST00000635830.1	PLCB1	ENSG00000182621	phospholipase C beta 1 Source HGNC Symbol Acc HGNC 15917
F09	SBH0524928	ENST00000559634.1	PLCB2	ENSG00000137841	phospholipase C beta 2 Source HGNC Symbol Acc HGNC 9055
F10	SBH0059111	ENST00000540288.5	PLCB3	ENSG00000149782	phospholipase C beta 3 Source HGNC Symbol Acc HGNC 9056

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH0307139	ENST00000394267.2	PPP1R1B	ENSG00000131771	protein phosphatase 1 regulatory inhibitor subunit 1B Source HGNC Symbol Acc HGNC 9287
F12	SBH0440536	ENST00000308677.8	PRKACA	ENSG00000072062	protein kinase cAMP-activated catalytic subunit alpha Source HGNC Symbol Acc HGNC 9380
G01	SBH1220344	ENST00000367468.10	PTGS2	ENSG00000073756	prostaglandin-endoperoxide synthase 2 Source HGNC Symbol Acc HGNC 9605
G02	SBH0512586	ENST00000519026.5	SLC18A1	ENSG00000036565	solute carrier family 18 member A1 Source HGNC Symbol Acc HGNC 10934
G03	SBH0244203	ENST00000298472.10	SLC18A2	ENSG00000016564	solute carrier family 18 member A2 Source HGNC Symbol Acc HGNC 10935
G04	SBH0245655	ENST00000512002.2	SLC6A3	ENSG00000014231	solute carrier family 6 member 3 Source HGNC Symbol Acc HGNC 11049
G05	SBH0416069	ENST00000578609.1	SLC6A4	ENSG00000010857	solute carrier family 6 member 4 Source HGNC Symbol Acc HGNC 11050
G06	SBH0118819	ENST00000394991.7	SNCA	ENSG00000014533	synuclein alpha Source HGNC Symbol Acc HGNC 11138
G07	SBH0202324	ENST00000261368.13	SNCAIP	ENSG00000006469	synuclein alpha interacting protein Source HGNC Symbol Acc HGNC 11139
G08	SBH0332917	ENST00000620175.4	SYN2	ENSG00000015715	synapsin II Source HGNC Symbol Acc HGNC 11495
G09	SBH0386775	ENST00000512584.5	TDO2	ENSG00000015179	tryptophan 2,3-dioxygenase Source HGNC Symbol Acc HGNC 11708
G10	SBH0245945	ENST00000412076.1	TH	ENSG00000018017	tyrosine hydroxylase Source HGNC Symbol Acc HGNC 11782
G11	SBH0017612	ENST00000417164.5	TPH1	ENSG00000012916	tryptophan hydroxylase 1 Source HGNC Symbol Acc HGNC 12008
G12	SBH0514467	ENST00000333850.4	TPH2	ENSG00000013928	tryptophan hydroxylase 2 Source HGNC Symbol Acc HGNC 20692
H01	SBH1220543	ENST00000646664.1	ACTB	ENSG00000007562	actin beta Source HGNC Symbol Acc HGNC 132
H02	SBH1220550	ENST00000558401.6	B2M	ENSG00000016671	beta-2-microglobulin Source HGNC Symbol Acc HGNC 914
H03	SBH1220545	ENST00000396861.5	GAPDH	ENSG00000011164	glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141
H04	SBH1220546	ENST00000298556.8	HPRT1	ENSG00000016570	hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157
H05	SBH1220553	ENST00000546989.5	RPLP0	ENSG00000008915	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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