

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

Human DNA Repair

Cat. no. 249950 SBHS-042ZA

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 for further details.

	1	2	3	4	5	6	7	8	9	10	11	12
A	APEX1	APEX2	ATM	ATR	ATXN3	BRCA1	BRCA2	BRIP1	CCNH	CCNO	CDK7	DDB1
B	DDB2	DMC1	ERCC1	ERCC2	ERCC3	ERCC4	ERCC5	ERCC6	ERCC8	EXO1	FEN1	LIG1
C	LIG3	LIG4	MGMT	MLH1	MLH3	MMS19	MPG	MRE11	MSH2	MSH3	MSH4	MSH5
D	MSH6	MUTYH	NEIL1	NEIL2	NEIL3	NTHL1	OGG1	PARP1	PARP2	PARP3	PMS1	PMS2
E	PNKP	POLB	POLD3	POLL	PRKDC	RAD18	RAD21	RAD23A	RAD23B	RAD50	RAD51	RAD51B
F	RAD51C	RAD51D	RAD52	RAD54L	RFC1	RPA1	RPA3	SLK	SMUG1	TDG	TOP3A	TOP3B
G	TREX1	UNG	XAB2	XPA	XPC	XRCC1	XRCC2	XRCC3	XRCC4	XRCC5	XRCC6	ATP23
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	SBH0279561	ENST00000555414.5	APEX1	ENSG00000100823	apurinic/apyrimidinic endodeoxyribonuclease 1 Source HGNC Symbol Acc HGNC 587
A02	SBH0583456	ENST00000471758.1	APEX2	ENSG00000169188	apurinic/apyrimidinic endodeoxyribonuclease 2 Source HGNC Symbol Acc HGNC 17889
A03	SBH1219763	ENST00000452508.6	ATM	ENSG00000149311	ATM serine/threonine kinase Source HGNC Symbol Acc HGNC 795
A04	SBH1219775	ENST00000350721.9	ATR	ENSG00000175054	ATR serine/threonine kinase Source HGNC Symbol Acc HGNC 882
A05	SBH0024290	ENST00000558190.6	ATXN3	ENSG00000066427	ataxin 3 Source HGNC Symbol Acc HGNC 7106
A06	SBH1219814	ENST00000357654.8	BRCA1	ENSG00000012048	BRCA1, DNA repair associated Source HGNC Symbol Acc HGNC 1100
A07	SBH1219815	ENST00000380152.7	BRCA2	ENSG00000139618	BRCA2, DNA repair associated Source HGNC Symbol Acc HGNC 1101
A08	SBH1219816	ENST00000259008.6	BRIP1	ENSG00000136492	BRCA1 interacting protein C-terminal helicase 1 Source HGNC Symbol Acc HGNC 20473
A09	SBH1219849	ENST00000504878.1	CCNH	ENSG00000134480	cyclin H Source HGNC Symbol Acc HGNC 1594
A10	SBH0315297	ENST00000282572.5	CCNO	ENSG00000152669	cyclin O Source HGNC Symbol Acc HGNC 18576
A11	SBH1219877	ENST00000256443.8	CDK7	ENSG00000134058	cyclin dependent kinase 7 Source HGNC Symbol Acc HGNC 1778
A12	SBH0321309	ENST00000301764.11	DDB1	ENSG00000167986	damage specific DNA binding protein 1 Source HGNC Symbol Acc HGNC 2717
B01	SBH0176071	ENST00000256996.8	DDB2	ENSG00000134574	damage specific DNA binding protein 2 Source HGNC Symbol Acc HGNC 2718
B02	SBH0013096	ENST00000616615.4	DMC1	ENSG00000100206	DNA meiotic recombinase 1 Source HGNC Symbol Acc HGNC 2927
B03	SBH1219982	ENST00000300853.7	ERCC1	ENSG00000012061	ERCC excision repair 1, endonuclease non-catalytic subunit Source HGNC Symbol Acc HGNC 3433
B04	SBH1219983	ENST00000586131.6	ERCC2	ENSG00000104884	ERCC excision repair 2, TFIIH core complex helicase subunit Source HGNC Symbol Acc HGNC 3434
B05	SBH0595209	ENST00000285398.6	ERCC3	ENSG00000163161	ERCC excision repair 3, TFIIH core complex helicase subunit Source HGNC Symbol Acc HGNC 3435
B06	SBH0206950	ENST00000574194.1	ERCC4	ENSG00000175595	ERCC excision repair 4, endonuclease catalytic subunit Source HGNC Symbol Acc HGNC 3436
B07	SBH1219984	ENST00000652225.1	ERCC5	ENSG00000134899	ERCC excision repair 5, endonuclease Source HGNC Symbol Acc HGNC 3437
B08	SBH0616914	ENST00000475116.1	ERCC6	ENSG000000225830	ERCC excision repair 6, chromatin remodeling factor Source HGNC Symbol Acc HGNC 3438
B09	SBH0587455	ENST00000643708.1	ERCC8	ENSG000000049167	ERCC excision repair 8, CSA ubiquitin ligase complex subunit Source HGNC Symbol Acc HGNC 3439
B10	SBH1219987	ENST00000348581.9	EXO1	ENSG00000174371	exonuclease 1 Source HGNC Symbol Acc HGNC 3511
B11	SBH1219999	ENST00000305885.3	FEN1	ENSG00000168496	flap structure-specific endonuclease 1 Source HGNC Symbol Acc HGNC 3650
B12	SBH1220173	ENST00000613670.4	LIG1	ENSG00000105486	DNA ligase 1 Source HGNC Symbol Acc HGNC 6598
C01	SBH0439964	ENST00000592690.1	LIG3	ENSG00000005156	DNA ligase 3 Source HGNC Symbol Acc HGNC 6600
C02	SBH0437738	ENST00000356922.5	LIG4	ENSG00000174405	DNA ligase 4 Source HGNC Symbol Acc HGNC 6601
C03	SBH0587302	ENST00000306010.8	MGMT	ENSG00000170430	O-6-methylguanine-DNA methyltransferase Source HGNC Symbol Acc HGNC 7059
C04	SBH0236577	ENST00000231790.6	MLH1	ENSG00000076242	mutL homolog 1 Source HGNC Symbol Acc HGNC 7127
C05	SBH1220214	ENST00000380968.6	MLH3	ENSG00000119684	mutL homolog 3 Source HGNC Symbol Acc HGNC 7128
C06	SBH0094477	ENST00000448660.5	MMS19	ENSG00000155229	MMS19 homolog, cytosolic iron-sulfur assembly component Source HGNC Symbol Acc HGNC 13824
C07	SBH0174447	ENST00000356432.7	MPG	ENSG00000103152	N-methylpurine DNA glycosylase Source HGNC Symbol Acc HGNC 7211
C08	SBH0627154	ENST00000323977.7	MRE11	ENSG00000020922	MRE11 homolog, double strand break repair nuclease Source HGNC Symbol Acc HGNC 7230
C09	SBH1220228	ENST00000233146.6	MSH2	ENSG00000095002	mutS homolog 2 Source HGNC Symbol Acc HGNC 7325
C10	SBH1220229	ENST00000265081.7	MSH3	ENSG00000113318	mutS homolog 3 Source HGNC Symbol Acc HGNC 7326
		ENST00000263		ENSG000000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH0044849	187.4	MSH4	057468	mutS homolog 4 Source HGNC Symbol Acc HGNC 7327
C12	SBH0333798	ENST00000652715.1	MSH5	ENSG00000204410	mutS homolog 5 Source HGNC Symbol Acc HGNC 7328
D01	SBH0043507	ENST00000622629.4	MSH6	ENSG00000116062	mutS homolog 6 Source HGNC Symbol Acc HGNC 7329
D02	SBH0491634	ENST00000481571.5	MUTYH	ENSG00000132781	mutY DNA glycosylase Source HGNC Symbol Acc HGNC 7527
D03	SBH0621349	ENST00000561643.5	NEIL1	ENSG00000140398	nei like DNA glycosylase 1 Source HGNC Symbol Acc HGNC 18448
D04	SBH0258900	ENST00000528323.5	NEIL2	ENSG00000154328	nei like DNA glycosylase 2 Source HGNC Symbol Acc HGNC 18956
D05	SBH0612618	ENST00000513321.1	NEIL3	ENSG00000109674	nei like DNA glycosylase 3 Source HGNC Symbol Acc HGNC 24573
D06	SBH1220282	ENST00000219066.5	NTHL1	ENSG00000065057	nth like DNA glycosylase 1 Source HGNC Symbol Acc HGNC 8028
D07	SBH0625859	ENST00000344629.11	OGG1	ENSG00000114026	8-oxoguanine DNA glycosylase Source HGNC Symbol Acc HGNC 8125
D08	SBH1220289	ENST00000366794.10	PARP1	ENSG00000143799	poly(ADP-ribose) polymerase 1 Source HGNC Symbol Acc HGNC 270
D09	SBH0568522	ENST00000250416.9	PARP2	ENSG00000129484	poly(ADP-ribose) polymerase 2 Source HGNC Symbol Acc HGNC 272
D10	SBH0463109	ENST00000417220.6	PARP3	ENSG00000041880	poly(ADP-ribose) polymerase family member 3 Source HGNC Symbol Acc HGNC 273
D11	SBH0555716	ENST00000441310.6	PMS1	ENSG00000064933	PMS1 homolog 1, mismatch repair system component Source HGNC Symbol Acc HGNC 9121
D12	SBH1220317	ENST00000642456.1	PMS2	ENSG00000122512	PMS1 homolog 2, mismatch repair system component Source HGNC Symbol Acc HGNC 9122
E01	SBH1220318	ENST00000322344.8	PNKP	ENSG00000039650	polynucleotide kinase 3 -phosphatase Source HGNC Symbol Acc HGNC 9154
E02	SBH1220319	ENST00000265421.9	POLB	ENSG00000070501	DNA polymerase beta Source HGNC Symbol Acc HGNC 9174
E03	SBH0255665	ENST00000532497.5	POLD3	ENSG00000077514	DNA polymerase delta 3, accessory subunit Source HGNC Symbol Acc HGNC 20932
E04	SBH0083868	ENST00000370169.5	POLL	ENSG00000166169	DNA polymerase lambda Source HGNC Symbol Acc HGNC 9184
E05	SBH0182228	ENST00000314191.6	PRKDC	ENSG00000253729	protein kinase, DNA-activated, catalytic subunit Source HGNC Symbol Acc HGNC 9413
E06	SBH1220353	ENST00000264926.7	RAD18	ENSG00000070950	RAD18, E3 ubiquitin protein ligase Source HGNC Symbol Acc HGNC 18278
E07	SBH0541159	ENST00000297338.6	RAD21	ENSG00000164754	RAD21 cohesin complex component Source HGNC Symbol Acc HGNC 9811
E08	SBH0583183	ENST00000593114.5	RAD23A	ENSG00000179262	RAD23 homolog A, nucleotide excision repair protein Source HGNC Symbol Acc HGNC 9812
E09	SBH0158623	ENST00000416373.6	RAD23B	ENSG00000119318	RAD23 homolog B, nucleotide excision repair protein Source HGNC Symbol Acc HGNC 9813
E10	SBH1220354	ENST00000651541.1	RAD50	ENSG00000113522	RAD50 double strand break repair protein Source HGNC Symbol Acc HGNC 9816
E11	SBH1220355	ENST00000423169.6	RAD51	ENSG00000051180	RAD51 recombinase Source HGNC Symbol Acc HGNC 9817
E12	SBH1220356	ENST00000487270.5	RAD51B	ENSG00000182185	RAD51 paralog B Source HGNC Symbol Acc HGNC 9822
F01	SBH0547124	ENST00000475762.5	RAD51C	ENSG00000108384	RAD51 paralog C Source HGNC Symbol Acc HGNC 9820
F02	SBH0138545	ENST00000335858.11	RAD51D	ENSG00000185379	RAD51 paralog D Source HGNC Symbol Acc HGNC 9823
F03	SBH0227537	ENST00000481052.5	RAD52	ENSG00000002016	RAD52 homolog, DNA repair protein Source HGNC Symbol Acc HGNC 9824
F04	SBH0356244	ENST00000493985.5	RAD54L	ENSG00000085999	RAD54 like Source HGNC Symbol Acc HGNC 9826
F05	SBH0414080	ENST00000639695.1	RFC1	ENSG00000035928	replication factor C subunit 1 Source HGNC Symbol Acc HGNC 9969
F06	SBH0498580	ENST00000254719.9	RPA1	ENSG00000132383	replication protein A1 Source HGNC Symbol Acc HGNC 10289
F07	SBH0002725	ENST00000406109.5	RPA3	ENSG00000106399	replication protein A3 Source HGNC Symbol Acc HGNC 10291
F08	SBH0079312	ENST00000335753.8	SLK	ENSG00000065613	STE20 like kinase Source HGNC Symbol Acc HGNC 11088
F09	SBH0030878	ENST00000401977.6	SMUG1	ENSG00000123415	single-strand-selective monofunctional uracil-DNA glycosylase 1 Source HGNC Symbol Acc HGNC 17148
F10	SBH0254010	ENST00000544861.5	TDG	ENSG00000139372	thymine DNA glycosylase Source HGNC Symbol Acc HGNC 11700

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH0513233	ENST00000584669.5	TOP3A	ENSG00000177302	DNA topoisomerase III alpha Source HGNC Symbol Acc HGNC 11992
F12	SBH0321568	ENST00000489581.1	TOP3B	ENSG00000100038	DNA topoisomerase III beta Source HGNC Symbol Acc HGNC 11993
G01	SBH0084993	ENST00000625293.3	TREX1	ENSG00000213689	three prime repair exonuclease 1 Source HGNC Symbol Acc HGNC 12269
G02	SBH1220506	ENST00000242576.6	UNG	ENSG00000076248	uracil DNA glycosylase Source HGNC Symbol Acc HGNC 12572
G03	SBH0243665	ENST00000596134.1	XAB2	ENSG00000076924	XPA binding protein 2 Source HGNC Symbol Acc HGNC 14089
G04	SBH0642216	ENST00000375128.4	XPA	ENSG00000136936	XPA, DNA damage recognition and repair factor Source HGNC Symbol Acc HGNC 12814
G05	SBH0219777	ENST00000285021.11	XPC	ENSG00000154767	XPC complex subunit, DNA damage recognition and repair factor Source HGNC Symbol Acc HGNC 12816
G06	SBH1220540	ENST00000598165.5	XRCC1	ENSG00000073050	X-ray repair cross complementing 1 Source HGNC Symbol Acc HGNC 12828
G07	SBH1220541	ENST00000359321.2	XRCC2	ENSG00000196584	X-ray repair cross complementing 2 Source HGNC Symbol Acc HGNC 12829
G08	SBH0311419	ENST00000553332.5	XRCC3	ENSG00000126215	X-ray repair cross complementing 3 Source HGNC Symbol Acc HGNC 12830
G09	SBH0451429	ENST00000511817.1	XRCC4	ENSG00000152422	X-ray repair cross complementing 4 Source HGNC Symbol Acc HGNC 12831
G10	SBH0094175	ENST00000429133.5	XRCC5	ENSG00000079246	X-ray repair cross complementing 5 Source HGNC Symbol Acc HGNC 12833
G11	SBH0066094	ENST00000360079.7	XRCC6	ENSG00000196419	X-ray repair cross complementing 6 Source HGNC Symbol Acc HGNC 4055
G12	SBH0480771	ENST00000300145.3	ATP23	ENSG00000166896	ATP23 metalloproteinase and ATP synthase assembly factor homolog Source HGNC Symbol Acc HGNC 29452
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 μ l reactions: 20 μ l 8x gDNA Removal Mix, 10 μ l Reverse Transcription Enzyme, 40 μ l Reverse Transcription Mix (containing RT primers), 20 μ l Internal Control RNA, 1.9 ml RNase-Free Water	205410
QuantiNova SYBR Green RT-PCR Kit (100)*	For 100 x 20 μ l reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 μ l QuantiNova SYBR Green RT Mix, 20 μ l Internal Control RNA, 500 μ l Yellow Template Dilution Buffer, 250 μ l ROX Reference Dye, 1.9 μ l RNase-Free Water	208152
QuantiNova SYBR Green PCR Kit (100)*	For 100 x 20 μ l reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 μ l QuantiNova Yellow Template Dilution Buffer, 250 μ 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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