QuantiNova® LNA® PCR Focus Panels (Rotor-Gene® Format)

Human DNA Damage Signaling Pathway

Cat. no. 249950 SBHS-029ZR

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 (Rotor-Gene): QuantiNova LNA PCR Focus Panel

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc® (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance. 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	ABL1	APEX1	ATM	ATR	ATRIP	ATRX	BARD1	BAX	BBC3	BLM	BRCA1	BRIP1
B	CDC25A	CDC25C	CDK7	CDKN1A	CHEK1	CHEK2	CIB1	CRY1	CSNK2A2	DDB1	DDB2	DDIT3
C	ERCC1	ERCC2	EXO1	FANCA	FANCD2	FANCG	FEN1	GADD45A	GADD45G	H2AFX	HUS1	LIG1
D	MAPK12	MBD4	MCPH1	MDC1	MLH1	MLH3	MPG	MRE11	MSH2	MSH3	NBN	NTHL1
E	OGG1	PARP1	PCNA	PMS1	PMS2	PNKP	PPM1D	PPP1R15A	PRKDC	RAD1	RAD17	RAD18
F	RAD21	RAD50	RAD51	RAD51B	RAD9A	RBBP8	REV1	RNF168	RNF8	RPA1	SIRT1	SMC1A
G	SUMO1	TOPBP1	TP53	TP53BP1	TP73	UNG	XPA	XPC	XRCC1	XRCC2	XRCC3	XRCC6
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	SBH1219716	ENST00000372348.6	ABL1	ENSG00000097007	ABL proto-oncogene 1, non-receptor tyrosine kinase Source HGNC Symbol Acc HGNC 76
A02	SBH0279561	ENST00000555414.5	APEX1	ENSG00000100823	apurinic/apyrimidinic endodeoxyribonuclease 1 Source HGNC Symbol Acc HGNC 587
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	SBH0577032	ENST00000346691.9	ATRIP	ENSG00000164053	ATR interacting protein Source HGNC Symbol Acc HGNC 33499
A06	SBH1219776	ENST00000373344.10	ATRX	ENSG00000085224	ATRX, chromatin remodeler Source HGNC Symbol Acc HGNC 886
A07	SBH1219782	ENST00000260947.9	BARD1	ENSG00000138376	BRCA1 associated RING domain 1 Source HGNC Symbol Acc HGNC 952
A08	SBH1219783	ENST00000391871.4	BAX	ENSG00000087088	BCL2 associated X, apoptosis regulator Source HGNC Symbol Acc HGNC 959
A09	SBH1219784	ENST00000341983.8	BBC3	ENSG00000105327	BCL2 binding component 3 Source HGNC Symbol Acc HGNC 17868
A10	SBH1219799	ENST00000355112.8	BLM	ENSG00000197299	BLM RecQ like helicase Source HGNC Symbol Acc HGNC 1058
A11	SBH1219814	ENST00000357654.8	BRCA1	ENSG00000012048	BRCA1, DNA repair associated Source HGNC Symbol Acc HGNC 1100
A12	SBH1219816	ENST00000259008.6	BRIP1	ENSG00000136492	BRCA1 interacting protein C-terminal helicase 1 Source HGNC Symbol Acc HGNC 20473
B01	SBH0437013	ENST00000302506.7	CDC25A	ENSG00000164045	cell division cycle 25A Source HGNC Symbol Acc HGNC 1725
B02	SBH1219866	ENST00000514017.1	CDC25C	ENSG00000158402	cell division cycle 25C Source HGNC Symbol Acc HGNC 1727
B03	SBH1219877	ENST00000256443.8	CDK7	ENSG00000134058	cyclin dependent kinase 7 Source HGNC Symbol Acc HGNC 1778
B04	SBH0608500	ENST00000244741.9	CDKN1A	ENSG00000124762	cyclin dependent kinase inhibitor 1A Source HGNC Symbol Acc HGNC 1784
B05	SBH1219885	ENST00000534070.5	CHEK1	ENSG00000149554	checkpoint kinase 1 Source HGNC Symbol Acc HGNC 1925
B06	SBH0661120	ENST00000416671.5	CHEK2	ENSG00000183765	checkpoint kinase 2 Source HGNC Symbol Acc HGNC 16627
B07	SBH0359658	ENST00000328649.10	CIB1	ENSG00000185043	calcium and integrin binding 1 Source HGNC Symbol Acc HGNC 16920
B08	SBH1219912	ENST00000549356.1	CRY1	ENSG00000008405	cryptochrome circadian regulator 1 Source HGNC Symbol Acc HGNC 2384
B09	SBH1219916	ENST00000262506.8	CSNK2A2	ENSG00000070770	casein kinase 2 alpha 2 Source HGNC Symbol Acc HGNC 2459
B10	SBH0321309	ENST00000301764.11	DDB1	ENSG00000167986	damage specific DNA binding protein 1 Source HGNC Symbol Acc HGNC 2717
B11	SBH0176071	ENST00000256996.8	DDB2	ENSG00000134574	damage specific DNA binding protein 2 Source HGNC Symbol Acc HGNC 2718
B12	SBH0602366	ENST00000346473.7	DDIT3	ENSG00000175197	DNA damage inducible transcript 3 Source HGNC Symbol Acc HGNC 2726
C01	SBH1219982	ENST00000300853.7	ERCC1	ENSG00000012061	ERCC excision repair 1, endonuclease non-catalytic subunit Source HGNC Symbol Acc HGNC 3433
C02	SBH1219983	ENST00000586131.6	ERCC2	ENSG00000104884	ERCC excision repair 2, TFIIH core complex helicase subunit Source HGNC Symbol Acc HGNC 3434
C03	SBH1219987	ENST00000348581.9	EXO1	ENSG00000174371	exonuclease 1 Source HGNC Symbol Acc HGNC 3511
C04	SBH1219992	ENST00000568369.5	FANCA	ENSG00000187741	FA complementation group A Source HGNC Symbol Acc HGNC 3582
C05	SBH1219993	ENST00000287647.7	FANCD2	ENSG00000144554	FA complementation group D2 Source HGNC Symbol Acc HGNC 3585
C06	SBH0536655	ENST00000378643.7	FANCG	ENSG00000221829	FA complementation group G Source HGNC Symbol Acc HGNC 3588
C07	SBH1219999	ENST00000305885.3	FEN1	ENSG00000168496	flap structure-specific endonuclease 1 Source HGNC Symbol Acc HGNC 3650
C08	SBH1220019	ENST00000370985.4	GADD45A	ENSG00000116717	growth arrest and DNA damage inducible alpha Source HGNC Symbol Acc HGNC 4095
C09	SBH1220021	ENST00000252506.11	GADD45G	ENSG00000130222	growth arrest and DNA damage inducible gamma Source HGNC Symbol Acc HGNC 4097
C10	SBH0111427	ENST00000530167.1	H2AFX	ENSG00000188486	H2A histone family member X Source HGNC Symbol Acc HGNC 4739
		ENST00000432		ENSG00000	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH1220075	627.5	HUS1	136273	HUS1 checkpoint clamp component Source HGNC Symbol Acc HGNC 5309
C12	SBH1220173	ENST00000613670.4	LIG1	ENSG00000105486	DNA ligase 1 Source HGNC Symbol Acc HGNC 6598
D01	SBH1220193	ENST00000395780.5	MAPK12	ENSG00000188130	mitogen-activated protein kinase 12 Source HGNC Symbol Acc HGNC 6874
D02	SBH1220198	ENST00000429544.6	MBD4	ENSG00000129071	methyl-CpG binding domain 4, DNA glycosylase Source HGNC Symbol Acc HGNC 6919
D03	SBH1220203	ENST00000344683.10	MCPH1	ENSG00000147316	microcephalin 1 Source HGNC Symbol Acc HGNC 6954
D04	SBH1220204	ENST00000376406.8	MDC1	ENSG00000137337	mediator of DNA damage checkpoint 1 Source HGNC Symbol Acc HGNC 21163
D05	SBH0236577	ENST00000231790.6	MLH1	ENSG00000076242	mutL homolog 1 Source HGNC Symbol Acc HGNC 7127
D06	SBH1220214	ENST00000380968.6	MLH3	ENSG00000119684	mutL homolog 3 Source HGNC Symbol Acc HGNC 7128
D07	SBH0174447	ENST00000356432.7	MPG	ENSG00000103152	N-methylpurine DNA glycosylase Source HGNC Symbol Acc HGNC 7211
D08	SBH0627154	ENST00000323977.7	MRE11	ENSG00000020922	MRE11 homolog, double strand break repair nuclease Source HGNC Symbol Acc HGNC 7230
D09	SBH1220228	ENST00000233146.6	MSH2	ENSG00000095002	mutS homolog 2 Source HGNC Symbol Acc HGNC 7325
D10	SBH1220229	ENST00000265081.7	MSH3	ENSG00000113318	mutS homolog 3 Source HGNC Symbol Acc HGNC 7326
D11	SBH0220644	ENST00000265433.7	NBN	ENSG00000104320	nibrin Source HGNC Symbol Acc HGNC 7652
D12	SBH1220282	ENST00000219066.5	NTHL1	ENSG00000065057	nth like DNA glycosylase 1 Source HGNC Symbol Acc HGNC 8028
E01	SBH0625859	ENST00000344629.11	OGG1	ENSG00000114026	8-oxoguanine DNA glycosylase Source HGNC Symbol Acc HGNC 8125
E02	SBH1220289	ENST00000366794.10	PARP1	ENSG00000143799	poly(ADP-ribose) polymerase 1 Source HGNC Symbol Acc HGNC 270
E03	SBH0251688	ENST00000379160.3	PCNA	ENSG00000132646	proliferating cell nuclear antigen Source HGNC Symbol Acc HGNC 8729
E04	SBH0555716	ENST00000441310.6	PMS1	ENSG00000064933	PMS1 homolog 1, mismatch repair system component Source HGNC Symbol Acc HGNC 9121
E05	SBH1220317	ENST00000642456.1	PMS2	ENSG00000122512	PMS1 homolog 2, mismatch repair system component Source HGNC Symbol Acc HGNC 9122
E06	SBH1220318	ENST00000322344.8	PNKP	ENSG00000039650	polynucleotide kinase 3 -phosphatase Source HGNC Symbol Acc HGNC 9154
E07	SBH1220325	ENST00000305921.7	PPM1D	ENSG00000170836	protein phosphatase, Mg2+/Mn2+ dependent 1D Source HGNC Symbol Acc HGNC 9277
E08	SBH1220326	ENST00000200453.6	PPP1R15A	ENSG00000087074	protein phosphatase 1 regulatory subunit 15A Source HGNC Symbol Acc HGNC 14375
E09	SBH0182228	ENST00000314191.6	PRKDC	ENSG00000253729	protein kinase, DNA-activated, catalytic subunit Source HGNC Symbol Acc HGNC 9413
E10	SBH0532031	ENST00000325577.8	RAD1	ENSG00000113456	RAD1 checkpoint DNA exonuclease Source HGNC Symbol Acc HGNC 9806
E11	SBH0068778	ENST00000305138.8	RAD17	ENSG00000152942	RAD17 checkpoint clamp loader component Source HGNC Symbol Acc HGNC 9807
E12	SBH1220353	ENST00000264926.7	RAD18	ENSG00000070950	RAD18, E3 ubiquitin protein ligase Source HGNC Symbol Acc HGNC 18278
F01	SBH0541159	ENST00000297338.6	RAD21	ENSG00000164754	RAD21 cohesin complex component Source HGNC Symbol Acc HGNC 9811
F02	SBH1220354	ENST00000651541.1	RAD50	ENSG00000113522	RAD50 double strand break repair protein Source HGNC Symbol Acc HGNC 9816
F03	SBH1220355	ENST00000423169.6	RAD51	ENSG00000051180	RAD51 recombinase Source HGNC Symbol Acc HGNC 9817
F04	SBH1220356	ENST00000487270.5	RAD51B	ENSG00000182185	RAD51 paralog B Source HGNC Symbol Acc HGNC 9822
F05	SBH1220357	ENST00000307980.7	RAD9A	ENSG00000172613	RAD9 checkpoint clamp component A Source HGNC Symbol Acc HGNC 9827
F06	SBH1220358	ENST00000582354.5	RBBP8	ENSG00000101773	RB binding protein 8, endonuclease Source HGNC Symbol Acc HGNC 9891
F07	SBH1220364	ENST00000450415.1	REV1	ENSG00000135945	REV1, DNA directed polymerase Source HGNC Symbol Acc HGNC 14060
F08	SBH1220371	ENST00000318037.3	RNF168	ENSG00000163961	ring finger protein 168 Source HGNC Symbol Acc HGNC 26661
F09	SBH0082172	ENST00000469731.5	RNF8	ENSG00000112130	ring finger protein 8 Source HGNC Symbol Acc HGNC 10071
F10	SBH0498580	ENST00000254719.9	RPA1	ENSG00000132383	replication protein A1 Source HGNC Symbol Acc HGNC 10289

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH1220398	ENST00000212015.11	SIRT1	ENSG00000096717	sirtuin 1 Source HGNC Symbol Acc HGNC 14929
F12	SBH0582438	ENST00000322213.8	SMC1A	ENSG00000072501	structural maintenance of chromosomes 1A Source HGNC Symbol Acc HGNC 11111
G01	SBH1220430	ENST00000392246.6	SUMO1	ENSG00000116030	small ubiquitin-like modifier 1 Source HGNC Symbol Acc HGNC 12502
G02	SBH0604590	ENST00000260810.9	TOPBP1	ENSG00000163781	DNA topoisomerase II binding protein 1 Source HGNC Symbol Acc HGNC 17008
G03	SBH1220486	ENST00000445888.6	TP53	ENSG00000141510	tumor protein p53 Source HGNC Symbol Acc HGNC 11998
G04	SBH0344481	ENST00000263801.7	TP53BP1	ENSG00000067369	tumor protein p53 binding protein 1 Source HGNC Symbol Acc HGNC 11999
G05	SBH1220488	ENST00000346387.8	TP73	ENSG00000078900	tumor protein p73 Source HGNC Symbol Acc HGNC 12003
G06	SBH1220506	ENST00000242576.6	UNG	ENSG00000076248	uracil DNA glycosylase Source HGNC Symbol Acc HGNC 12572
G07	SBH0642216	ENST00000375128.4	XPA	ENSG00000136936	XPA, DNA damage recognition and repair factor Source HGNC Symbol Acc HGNC 12814
G08	SBH0219777	ENST00000285021.11	XPC	ENSG00000154767	XPC complex subunit, DNA damage recognition and repair factor Source HGNC Symbol Acc HGNC 12816
G09	SBH1220540	ENST00000598165.5	XRCC1	ENSG00000073050	X-ray repair cross complementing 1 Source HGNC Symbol Acc HGNC 12828
G10	SBH1220541	ENST00000359321.2	XRCC2	ENSG00000196584	X-ray repair cross complementing 2 Source HGNC Symbol Acc HGNC 12829
G11	SBH0311419	ENST00000553332.5	XRCC3	ENSG00000126215	X-ray repair cross complementing 3 Source HGNC Symbol Acc HGNC 12830
G12	SBH0066094	ENST00000360079.7	XRCC6	ENSG00000196419	X-ray repair cross complementing 6 Source HGNC Symbol Acc HGNC 4055
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 µl reactions: 20 µl 8x gDNA Removal Mix, 10 µl Reverse Transcription Enzyme, 40 µl Reverse Transcription Mix (containing RT primers), 20 µl Internal Control RNA, 1.9 ml RNase-Free Water	205410
QuantiNova SYBR Green RT-PCR Kit (100)*	For 100 x 20 µl reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 µl QuantiNova SYBR Green RT Mix, 20 µl Internal Control RNA, 500 µl Yellow Template Dilution Buffer, 250 µl ROX Reference Dye, 1.9 µl RNase-Free Water	208152
QuantiNova SYBR Green PCR Kit (100)*	For 100 x 20 µl reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 µl QuantiNova Yellow Template Dilution Buffer, 250 µl 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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