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

Rat DNA Damage Signaling Pathway

Cat. no. 249950 SBRN-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	LOC100909750	Apex1	Atm	Atrx	Bard1	Bax	Bcl3	Blm	Brca1	Brca2	Cdc25a	Cdc25c
B	Cdkn1a	Stt3a	Chek2	Csnk2a2	Dclre1a	Ddb2	Ddit3	Ercc1	Ercc2	Exo1	Fanca	Fancc
C	Fancd2	Fancg	Fen1	Gadd45a	Gadd45g	Hus1	Lig1	Mbd4	Mgmt	LOC103694877	Mlh1	Mlh3
D	Mpg	Mre11a	Msh2	Msh3	Nbn	Nthl1	Ogg1	Parp1	Parp2	Pcna	Pms1	Pms2
E	Pold3	Pole	Polh	Poli	Ppm1d	Ppp1r15a	Prkdc	Pttg1	Rad1	Rad17	Rad18	Rad21
F	Rad50	Rad51	Rad51c	Rad51b	Rad52	Rad9a	Rev1	Rnf8	Rpa1	AABR07044925.1	Smc1a	Smc3
G	Sumo1	Terf1	Topbp1	Tp53	Tp53bp1	Ung	Wrn	Wrnip1	Xpc	Xrcc1	Xrcc2	Xrcc6
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	QIC	QIC	QIC	PPC	PPC	PPC

Gene table: QuantiNova LNA PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	SBR1140753	ENSRNOT00000042495.5	LOC100909750	ENSRNOG00000047356	tyrosine-protein kinase ABL1-like Source RGD Symbol Acc 6502032
A02	SBR1185931	ENSRNOT00000087958.1	Apex1	ENSRNOG00000009663	apurinic/apyrimidinic endodeoxyribonuclease 1 Source RGD Symbol Acc 2126
A03	SBR1113073	ENSRNOT00000050555.3	Atm	ENSRNOG00000029773	ATM serine/threonine kinase Source RGD Symbol Acc 1593265
A04	SBR1109006	ENSRNOT00000091284.1	Atrx	ENSRNOG00000056703	ATRX, chromatin remodeler Source RGD Symbol Acc 619795
A05	SBR1172668	ENSRNOT00000087870.1	Bard1	ENSRNOG00000014960	BRCA1 associated RING domain 1 Source RGD Symbol Acc 621072
A06	SBR1154566	ENSRNOT00000028328.5	Bax	ENSRNOG00000020876	BCL2 associated X, apoptosis regulator Source RGD Symbol Acc 2192
A07	SBR1162415	ENSRNOT00000025913.6	Bcl3	ENSRNOG00000043416	BCL3, transcription coactivator Source RGD Symbol Acc 1589465
A08	SBR1208346	ENSRNOT00000015065.7	Blm	ENSRNOG00000011213	BLM RecQ like helicase Source RGD Symbol Acc 1308810
A09	SBR1185089	ENSRNOT00000028109.3	Brca1	ENSRNOG00000020701	BRCA1, DNA repair associated Source RGD Symbol Acc 2218
A10	SBR1095330	ENSRNOT00000001475.7	Brca2	ENSRNOG00000001111	BRCA2, DNA repair associated Source RGD Symbol Acc 2219
A11	SBR1114792	ENSRNOT00000028141.7	Cdc25a	ENSRNOG00000020737	cell division cycle 25A Source RGD Symbol Acc 621498
A12	SBR1194259	ENSRNOT00000037368.6	Cdc25c	ENSRNOG00000024008	cell division cycle 25C Source RGD Symbol Acc 1311875
B01	SBR1145142	ENSRNOT00000091731.1	Cdkn1a	ENSRNOG00000000521	cyclin-dependent kinase inhibitor 1A Source RGD Symbol Acc 69328
B02	SBR1115970	ENSRNOT00000043518.4	Stt3a	ENSRNOG00000031896	STT3A, catalytic subunit of the oligosaccharyltransferase complex Source RGD Symbol Acc 1565793
B03	SBR1132181	ENSRNOT00000085591.1	Chek2	ENSRNOG00000037509	checkpoint kinase 2 Source RGD Symbol Acc 621543
B04	SBR1148547	ENSRNOT00000016386.7	Csnk2a2	ENSRNOG00000011933	casein kinase 2 alpha 2 Source RGD Symbol Acc 1306882
B05	SBR1140281	ENSRNOT00000036321.5	Dclre1a	ENSRNOG00000026204	DNA cross-link repair 1A Source RGD Symbol Acc 1306156
B06	SBR1172394	ENSRNOT00000018998.8	Ddb2	ENSRNOG00000014071	damage specific DNA binding protein 2 Source RGD Symbol Acc 1310164
B07	SBR1210119	ENSRNOT00000083472.1	Ddit3	ENSRNOG00000006789	DNA-damage inducible transcript 3 Source RGD Symbol Acc 62391
B08	SBR1128428	ENSRNOT00000024113.5	Ercc1	ENSRNOG00000017839	ERCC excision repair 1, endonuclease non-catalytic subunit Source RGD Symbol Acc 1306992
B09	SBR1168699	ENSRNOT00000024246.7	Ercc2	ENSRNOG00000017753	ERCC excision repair 2, TFIIH core complex helicase subunit Source RGD Symbol Acc 1309109
B10	SBR1147426	ENSRNOT00000088204.1	Exo1	ENSRNOG00000056209	exonuclease 1 Source RGD Symbol Acc 1309465
B11	SBR1150547	ENSRNOT00000022658.7	Fanca	ENSRNOG00000016706	FA complementation group A Source RGD Symbol Acc 1311380
B12	SBR1162463	ENSRNOT00000022884.6	Fancc	ENSRNOG00000016889	FA complementation group C Source RGD Symbol Acc 2593
C01	SBR1132359	ENSRNOT00000082618.1	Fancd2	ENSRNOG00000061085	FA complementation group D2 Source RGD Symbol Acc 1303172
C02	SBR1212568	ENSRNOT00000078082.1	Fancg	ENSRNOG00000057945	FA complementation group G Source RGD Symbol Acc 1587477
C03	SBR1214077	ENSRNOT00000027842.3	Fen1	ENSRNOG00000020531	flap structure-specific endonuclease 1 Source RGD Symbol Acc 621821
C04	SBR1179414	ENSRNOT00000007698.6	Gadd45a	ENSRNOG00000005615	growth arrest and DNA-damage-inducible, alpha Source RGD Symbol Acc 2654
C05	SBR1194608	ENSRNOT00000018252.7	Gadd45g	ENSRNOG00000013090	growth arrest and DNA-damage-inducible, gamma Source RGD Symbol Acc 1311796
C06	SBR1152038	ENSRNOT00000091671.1	Hus1	ENSRNOG00000005141	HUS1 checkpoint clamp component Source RGD Symbol Acc 1591976
C07	SBR1130641	ENSRNOT00000019799.6	Lig1	ENSRNOG00000014193	DNA ligase 1 Source RGD Symbol Acc 621424
C08	SBR1118745	ENSRNOT00000014537.7	Mbd4	ENSRNOG00000010919	methyl-CpG binding domain 4 DNA glycosylase Source RGD Symbol Acc 1585874
C09	SBR1144940	ENSRNOT00000021537.4	Mgmt	ENSRNOG00000016038	O-6-methylguanine-DNA methyltransferase Source RGD Symbol Acc 3087
C10	SBR1136891	ENSRNOT00000008608.4	LOC103694877	ENSRNOG00000006589	macrophage migration inhibitory factor Source RGD Symbol Acc 621163
		ENSRNOT00000		ENSRNOG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1108786	081718.1	Mlh1	000033809	mutL homolog 1 Source RGD Symbol Acc 620937
C12	SBR1172256	ENSRNOT00000033493.3	Mlh3	ENSRNOG00000006699	mutL homolog 3 Source RGD Symbol Acc 1309227
D01	SBR1159432	ENSRNOT00000027940.4	Mpg	ENSRNOG00000020571	N-methylpurine-DNA glycosylase Source RGD Symbol Acc 3106
D02	SBR1133175	ENSRNOT00000012940.4	Mre11a	ENSRNOG00000009506	MRE11 homolog A, double strand break repair nuclease Source RGD Symbol Acc 69263
D03	SBR1147710	ENSRNOT00000021538.7	Msh2	ENSRNOG00000015796	mutS homolog 2 Source RGD Symbol Acc 620786
D04	SBR1193318	ENSRNOT00000018449.7	Msh3	ENSRNOG00000013673	mutS homolog 3 Source RGD Symbol Acc 1563954
D05	SBR1194336	ENSRNOT00000012377.4	Nbn	ENSRNOG00000008580	nibrin Source RGD Symbol Acc 621420
D06	SBR1131490	ENSRNOT00000016490.6	Nthl1	ENSRNOG00000012213	nth-like DNA glycosylase 1 Source RGD Symbol Acc 1309289
D07	SBR1160838	ENSRNOT00000085766.1	Ogg1	ENSRNOG00000052140	8-oxoguanine DNA glycosylase Source RGD Symbol Acc 621168
D08	SBR1161994	ENSRNOT00000004232.5	Parp1	ENSRNOG00000003084	poly (ADP-ribose) polymerase 1 Source RGD Symbol Acc 2053
D09	SBR1191091	ENSRNOT00000011840.6	Parp2	ENSRNOG00000008892	poly (ADP-ribose) polymerase 2 Source RGD Symbol Acc 1310568
D10	SBR1212532	ENSRNOT00000028887.6	Pcna	ENSRNOG00000021264	proliferating cell nuclear antigen Source RGD Symbol Acc 3269
D11	SBR1152147	ENSRNOT00000043714.4	Pms1	ENSRNOG00000004076	PMS1 homolog 1, mismatch repair system component Source RGD Symbol Acc 1359511
D12	SBR1167831	ENSRNOT00000078603.2	Pms2	ENSRNOG00000001040	PMS1 homolog 2, mismatch repair system component Source RGD Symbol Acc 1305483
E01	SBR1146009	ENSRNOT00000024875.6	Pold3	ENSRNOG00000018411	DNA polymerase delta 3, accessory subunit Source RGD Symbol Acc 1312027
E02	SBR1164317	ENSRNOT00000067453.3	Pole	ENSRNOG00000037449	DNA polymerase epsilon, catalytic subunit Source RGD Symbol Acc 1594540
E03	SBR1162690	ENSRNOT00000026049.3	Polh	ENSRNOG00000019195	DNA polymerase eta Source RGD Symbol Acc 1309893
E04	SBR1171496	ENSRNOT00000016189.6	Poli	ENSRNOG00000012111	DNA polymerase iota Source RGD Symbol Acc 1305212
E05	SBR1167655	ENSRNOT00000004540.6	Ppm1d	ENSRNOG00000003329	protein phosphatase, Mg2+/Mn2+ dependent, 1D Source RGD Symbol Acc 1305460
E06	SBR1209656	ENSRNOT00000044788.4	Ppp1r15a	ENSRNOG00000020938	protein phosphatase 1, regulatory subunit 15A Source RGD Symbol Acc 621526
E07	SBR1128961	ENSRNOT00000035247.7	Prkdc	ENSRNOG00000025028	protein kinase, DNA-activated, catalytic subunit Source RGD Symbol Acc 1308982
E08	SBR1183484	ENSRNOT00000005070.5	Pttg1	ENSRNOG00000003802	pituitary tumor-transforming 1 Source RGD Symbol Acc 68359
E09	SBR1107728	ENSRNOT00000024557.6	Rad1	ENSRNOG00000018063	RAD1 checkpoint DNA exonuclease Source RGD Symbol Acc 1306496
E10	SBR1186209	ENSRNOT00000024801.4	Rad17	ENSRNOG00000018353	RAD17 checkpoint clamp loader component Source RGD Symbol Acc 1309515
E11	SBR1142157	ENSRNOT00000066468.2	Rad18	ENSRNOG00000005907	RAD18 E3 ubiquitin protein ligase Source RGD Symbol Acc 1306993
E12	SBR1105130	ENSRNOT00000006209.5	Rad21	ENSRNOG00000004420	RAD21 cohesin complex component Source RGD Symbol Acc 1594529
F01	SBR1097975	ENSRNOT00000063772.2	Rad50	ENSRNOG00000033065	RAD50 double strand break repair protein Source RGD Symbol Acc 621542
F02	SBR1098144	ENSRNOT00000056432.2	Rad51	ENSRNOG00000037302	RAD51 recombinase Source RGD Symbol Acc 1563603
F03	SBR1110714	ENSRNOT00000008846.5	Rad51c	ENSRNOG00000006661	RAD51 paralog C Source RGD Symbol Acc 1563765
F04	SBR1155751	ENSRNOT00000087132.1	Rad51b	ENSRNOG00000059245	RAD51 paralog B Source MGI Symbol Acc MGI 1099436
F05	SBR1138420	ENSRNOT00000076062.2	Rad52	ENSRNOG00000009742	RAD52 homolog, DNA repair protein Source RGD Symbol Acc 1304975
F06	SBR1187108	ENSRNOT00000025317.5	Rad9a	ENSRNOG00000018729	RAD9 checkpoint clamp component A Source RGD Symbol Acc 2319938
F07	SBR1185958	ENSRNOT00000067197.2	Rev1	ENSRNOG00000018623	REV1, DNA directed polymerase Source RGD Symbol Acc 1306715
F08	SBR1140859	ENSRNOT00000065629.2	Rnf8	ENSRNOG00000047171	ring finger protein 8 Source RGD Symbol Acc 1308035
F09	SBR1146839	ENSRNOT00000090262.1	Rpa1	ENSRNOG00000003123	replication protein A1 Source RGD Symbol Acc 1307376
F10	SBR1134550	ENSRNOT00000078739.1	AABR07044925.1	ENSRNOG00000051592	sirtuin 1 Source NCBI gene Acc 309757

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1190486	ENSRNOT00000004364.7	Smc1a	ENSRNOG00000003139	structural maintenance of chromosomes 1A Source RGD Symbol Acc 61991
F12	SBR1100981	ENSRNOT00000054686.2	Smc3	ENSRNOG00000014173	structural maintenance of chromosomes 3 Source RGD Symbol Acc 62006
G01	SBR1110400	ENSRNOT00000022047.5	Sumo1	ENSRNOG00000016133	small ubiquitin-like modifier 1 Source RGD Symbol Acc 1306919
G02	SBR1178041	ENSRNOT00000049741.2	Terf1	ENSRNOG00000007291	telomeric repeat binding factor 1 Source RGD Symbol Acc 1311574
G03	SBR1111838	ENSRNOT00000013265.7	Topbp1	ENSRNOG00000009789	DNA topoisomerase II binding protein 1 Source RGD Symbol Acc 1562949
G04	SBR1172374	ENSRNOT00000046490.3	Tp53	ENSRNOG00000010756	tumor protein p53 Source RGD Symbol Acc 3889
G05	SBR1215660	ENSRNOT00000019025.8	Tp53bp1	ENSRNOG00000013837	tumor protein p53 binding protein 1 Source RGD Symbol Acc 1308039
G06	SBR1130541	ENSRNOT00000056865.3	Ung	ENSRNOG00000000692	uracil-DNA glycosylase Source RGD Symbol Acc 1307200
G07	SBR1108224	ENSRNOT00000058805.5	Wrn	ENSRNOG00000015440	Werner syndrome RecQ like helicase Source RGD Symbol Acc 1564788
G08	SBR1102487	ENSRNOT00000023332.5	Wrnip1	ENSRNOG00000017040	Werner helicase interacting protein 1 Source RGD Symbol Acc 628836
G09	SBR1133388	ENSRNOT00000011490.3	Xpc	ENSRNOG00000008274	XPC complex subunit, DNA damage recognition and repair factor Source RGD Symbol Acc 1305760
G10	SBR1170337	ENSRNOT00000027057.5	Xrcc1	ENSRNOG00000019915	X-ray repair cross complementing 1 Source RGD Symbol Acc 619823
G11	SBR1109147	ENSRNOT00000010025.7	Xrcc2	ENSRNOG00000007493	X-ray repair cross complementing 2 Source RGD Symbol Acc 1564823
G12	SBR1106897	ENSRNOT00000008819.7	Xrcc6	ENSRNOG00000006392	X-ray repair cross complementing 6 Source RGD Symbol Acc 2643
H01	SBR1220567	ENSRNOT00000042459.4	Actb	ENSRNOG00000034254	actin, beta Source RGD Symbol Acc 628837
H02	SBR1220568	ENSRNOT00000023017.5	B2m	ENSRNOG00000017123	beta-2 microglobulin Source RGD Symbol Acc 2189
H03	SBR1225377	ENSRNOT00000065935.3	Hprt1	ENSRNOG00000048561	hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826
H04	SBR1122313	ENSRNOT00000017468.2	Ldha	ENSRNOG00000013009	lactate dehydrogenase A Source RGD Symbol Acc 2996
H05	SBR1220572	ENSRNOT00000018820.5	Rplp1	ENSRNOG00000013874	ribosomal protein lateral stalk subunit P1 Source RGD Symbol Acc 621774
H06	SBR1218555	Sybr_RGDC	RGDC	Sybr_RGDC	Rat 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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