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

Human Glucose Metabolism

Cat. no. 249950 SBHS-006ZA

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	ACLY	ACO1	ACO2	AGL	ALDOA	ALDOB	ALDOC	BPGM	CS	DLAT	DLD	DLST
B	ENO1	ENO2	ENO3	FBP1	FBP2	FH	G6PC	G6PC3	G6PD	GALM	GBE1	GCK
C	GPI	GSK3A	GSK3B	GYS1	GYS2	H6PD	HK2	HK3	IDH1	IDH2	IDH3A	IDH3B
D	IDH3G	MDH1	MDH1B	MDH2	OGDH	PC	PCK1	PCK2	PDHA1	PDHB	PDK1	PDK2
E	PDK3	PDK4	PDP2	PDPR	PFKL	PGAM2	PGK1	PGK2	PGLS	PGM1	PGM2	PGM3
F	PHKA1	PHKB	PHKG1	PHKG2	PKLR	PRPS1	PRPS1L1	PRPS2	PYGL	PYGM	RBKS	RPE
G	RPIA	SDHA	SDHB	SDHC	SDHD	SUCLA2	SUCLG1	SUCLG2	TALDO1	TKT	TPI1	UGP2
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	SBH1219718	ENST00000590770.5	ACLY	ENSG00000131473	ATP citrate lyase Source HGNC Symbol Acc HGNC 115
A02	SBH1219719	ENST00000541043.5	ACO1	ENSG00000122729	aconitase 1 Source HGNC Symbol Acc HGNC 117
A03	SBH1219720	ENST00000396512.3	ACO2	ENSG00000100412	aconitase 2 Source HGNC Symbol Acc HGNC 118
A04	SBH0110983	ENST00000294724.8	AGL	ENSG00000162688	amylo-alpha-1, 6-glucosidase, 4-alpha-glucanotransferase Source HGNC Symbol Acc HGNC 321
A05	SBH0597315	ENST00000564546.6	ALDOA	ENSG00000149925	aldolase, fructose-bisphosphate A Source HGNC Symbol Acc HGNC 414
A06	SBH0054167	ENST00000374855.8	ALDOB	ENSG00000136872	aldolase, fructose-bisphosphate B Source HGNC Symbol Acc HGNC 417
A07	SBH1219734	ENST00000226253.9	ALDOC	ENSG00000109107	aldolase, fructose-bisphosphate C Source HGNC Symbol Acc HGNC 418
A08	SBH1219812	ENST00000344924.8	BPGM	ENSG00000172331	bisphosphoglycerate mutase Source HGNC Symbol Acc HGNC 1093
A09	SBH0563059	ENST00000546930.5	CS	ENSG00000062485	citrate synthase Source HGNC Symbol Acc HGNC 2422
A10	SBH1219952	ENST00000531306.1	DLAT	ENSG00000150768	dihydrolipoamide S-acetyltransferase Source HGNC Symbol Acc HGNC 2896
A11	SBH1219953	ENST00000205402.10	DLD	ENSG00000091140	dihydrolipoamide dehydrogenase Source HGNC Symbol Acc HGNC 2898
A12	SBH1219954	ENST00000334220.9	DLST	ENSG00000119689	dihydrolipoamide S-succinyltransferase Source HGNC Symbol Acc HGNC 2911
B01	SBH0555349	ENST00000234590.10	ENO1	ENSG00000074800	enolase 1 Source HGNC Symbol Acc HGNC 3350
B02	SBH1219976	ENST00000229277.6	ENO2	ENSG00000111674	enolase 2 Source HGNC Symbol Acc HGNC 3353
B03	SBH0256688	ENST00000323997.10	ENO3	ENSG00000108515	enolase 3 Source HGNC Symbol Acc HGNC 3354
B04	SBH0551904	ENST00000375326.8	FBP1	ENSG00000165140	fructose-bisphosphatase 1 Source HGNC Symbol Acc HGNC 3606
B05	SBH1219996	ENST00000375337.4	FBP2	ENSG00000130957	fructose-bisphosphatase 2 Source HGNC Symbol Acc HGNC 3607
B06	SBH0479360	ENST00000366560.3	FH	ENSG00000091483	fumarate hydratase Source HGNC Symbol Acc HGNC 3700
B07	SBH0049367	ENST00000592383.5	G6PC	ENSG00000131482	glucose-6-phosphatase catalytic subunit Source HGNC Symbol Acc HGNC 4056
B08	SBH0641228	ENST00000269097.8	G6PC3	ENSG00000141349	glucose-6-phosphatase catalytic subunit 3 Source HGNC Symbol Acc HGNC 24861
B09	SBH0586368	ENST00000621232.5	G6PD	ENSG00000160211	glucose-6-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4057
B10	SBH1220022	ENST00000272252.10	GALM	ENSG00000143891	galactose mutarotase Source HGNC Symbol Acc HGNC 24063
B11	SBH1220023	ENST00000489715.1	GBE1	ENSG00000114480	1,4-alpha-glucan branching enzyme 1 Source HGNC Symbol Acc HGNC 4180
B12	SBH1220024	ENST00000616242.4	GCK	ENSG00000106633	glucokinase Source HGNC Symbol Acc HGNC 4195
C01	SBH1220031	ENST00000644934.1	GPI	ENSG00000105220	glucose-6-phosphate isomerase Source HGNC Symbol Acc HGNC 4458
C02	SBH1220041	ENST00000222330.8	GSK3A	ENSG00000105723	glycogen synthase kinase 3 alpha Source HGNC Symbol Acc HGNC 4616
C03	SBH0579883	ENST00000316626.5	GSK3B	ENSG00000082701	glycogen synthase kinase 3 beta Source HGNC Symbol Acc HGNC 4617
C04	SBH1220045	ENST00000323798.8	GYS1	ENSG00000104812	glycogen synthase 1 Source HGNC Symbol Acc HGNC 4706
C05	SBH0359280	ENST00000261195.2	GYS2	ENSG00000111713	glycogen synthase 2 Source HGNC Symbol Acc HGNC 4707
C06	SBH1220046	ENST00000602477.1	H6PD	ENSG00000049239	hexose-6-phosphate dehydrogenase/glucose 1-dehydrogenase Source HGNC Symbol Acc HGNC 4795
C07	SBH0186371	ENST00000290573.6	HK2	ENSG00000159399	hexokinase 2 Source HGNC Symbol Acc HGNC 4923
C08	SBH1220062	ENST00000292432.10	HK3	ENSG00000160883	hexokinase 3 Source HGNC Symbol Acc HGNC 4925
C09	SBH0039406	ENST00000345146.6	IDH1	ENSG00000138413	isocitrate dehydrogenase (NADP(+)) 1, cytosolic Source HGNC Symbol Acc HGNC 5382
C10	SBH1220078	ENST00000330062.7	IDH2	ENSG00000182054	isocitrate dehydrogenase (NADP(+)) 2, mitochondrial Source HGNC Symbol Acc HGNC 5383
		ENST00000559		ENSG00000	isocitrate dehydrogenase 3 (NAD(+)) alpha Source HGNC Symbol Acc HGNC

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH1220079	186.5	IDH3A	166411	5384
C12	SBH0449104	ENST00000613370.1	IDH3B	ENSG00000101365	isocitrate dehydrogenase 3 (NAD(+)) beta Source HGNC Symbol Acc HGNC 5385
D01	SBH0226142	ENST00000370092.7	IDH3G	ENSG00000067829	isocitrate dehydrogenase 3 (NAD(+)) gamma Source HGNC Symbol Acc HGNC 5386
D02	SBH1220205	ENST00000233114.13	MDH1	ENSG00000014641	malate dehydrogenase 1 Source HGNC Symbol Acc HGNC 6970
D03	SBH0530518	ENST00000449792.5	MDH1B	ENSG00000138400	malate dehydrogenase 1B Source HGNC Symbol Acc HGNC 17836
D04	SBH1220206	ENST00000432020.2	MDH2	ENSG00000146701	malate dehydrogenase 2 Source HGNC Symbol Acc HGNC 6971
D05	SBH1220285	ENST00000444676.5	OGDH	ENSG00000105953	oxoglutarate dehydrogenase Source HGNC Symbol Acc HGNC 8124
D06	SBH1220290	ENST00000528403.6	PC	ENSG00000173599	pyruvate carboxylase Source HGNC Symbol Acc HGNC 8636
D07	SBH1220291	ENST00000319441.6	PCK1	ENSG00000124253	phosphoenolpyruvate carboxykinase 1 Source HGNC Symbol Acc HGNC 8724
D08	SBH0202599	ENST00000560736.5	PCK2	ENSG00000100889	phosphoenolpyruvate carboxykinase 2, mitochondrial Source HGNC Symbol Acc HGNC 8725
D09	SBH0568649	ENST00000422285.6	PDHA1	ENSG00000131828	pyruvate dehydrogenase E1 alpha 1 subunit Source HGNC Symbol Acc HGNC 8806
D10	SBH1220294	ENST00000383714.8	PDHB	ENSG00000168291	pyruvate dehydrogenase E1 beta subunit Source HGNC Symbol Acc HGNC 8808
D11	SBH0017980	ENST00000410055.5	PDK1	ENSG00000152256	pyruvate dehydrogenase kinase 1 Source HGNC Symbol Acc HGNC 8809
D12	SBH0253705	ENST00000503176.5	PDK2	ENSG00000005882	pyruvate dehydrogenase kinase 2 Source HGNC Symbol Acc HGNC 8810
E01	SBH0138310	ENST00000379162.8	PDK3	ENSG00000067992	pyruvate dehydrogenase kinase 3 Source HGNC Symbol Acc HGNC 8811
E02	SBH1220295	ENST00000005178.6	PDK4	ENSG00000004799	pyruvate dehydrogenase kinase 4 Source HGNC Symbol Acc HGNC 8812
E03	SBH1220297	ENST00000561704.1	PDP2	ENSG00000172840	pyruvate dehyrogenase phosphatase catalytic subunit 2 Source HGNC Symbol Acc HGNC 30263
E04	SBH1220298	ENST00000563930.5	PDPR	ENSG00000090857	pyruvate dehydrogenase phosphatase regulatory subunit Source HGNC Symbol Acc HGNC 30264
E05	SBH1220301	ENST00000349048.9	PFKL	ENSG00000141959	phosphofructokinase, liver type Source HGNC Symbol Acc HGNC 8876
E06	SBH1220302	ENST00000297283.4	PGAM2	ENSG00000164708	phosphoglycerate mutase 2 Source HGNC Symbol Acc HGNC 8889
E07	SBH1220304	ENST00000644362.1	PGK1	ENSG00000102144	phosphoglycerate kinase 1 Source HGNC Symbol Acc HGNC 8896
E08	SBH0031984	ENST00000304801.5	PGK2	ENSG00000170950	phosphoglycerate kinase 2 Source HGNC Symbol Acc HGNC 8898
E09	SBH1220305	ENST00000595782.1	PGLS	ENSG00000130313	6-phosphogluconolactonase Source NCBI gene Acc 25796
E10	SBH1220306	ENST00000371083.4	PGM1	ENSG00000079739	phosphoglucomutase 1 Source HGNC Symbol Acc HGNC 8905
E11	SBH1220307	ENST00000381967.9	PGM2	ENSG00000169299	phosphoglucomutase 2 Source HGNC Symbol Acc HGNC 8906
E12	SBH1220308	ENST00000616566.5	PGM3	ENSG00000013375	phosphoglucomutase 3 Source HGNC Symbol Acc HGNC 8907
F01	SBH1220309	ENST00000373542.9	PHKA1	ENSG00000067177	phosphorylase kinase regulatory subunit alpha 1 Source HGNC Symbol Acc HGNC 8925
F02	SBH1220310	ENST00000566044.5	PHKB	ENSG00000102893	phosphorylase kinase regulatory subunit beta Source HGNC Symbol Acc HGNC 8927
F03	SBH0374694	ENST00000297373.6	PHKG1	ENSG00000164776	phosphorylase kinase catalytic subunit gamma 1 Source HGNC Symbol Acc HGNC 8930
F04	SBH1220311	ENST00000563588.6	PHKG2	ENSG00000156873	phosphorylase kinase catalytic subunit gamma 2 Source HGNC Symbol Acc HGNC 8931
F05	SBH0144829	ENST00000342741.6	PKLR	ENSG00000143627	pyruvate kinase L/R Source HGNC Symbol Acc HGNC 9020
F06	SBH0578565	ENST00000372435.9	PRPS1	ENSG00000147224	phosphoribosyl pyrophosphate synthetase 1 Source HGNC Symbol Acc HGNC 9462
F07	SBH1220339	ENST00000506618.4	PRPS1L1	ENSG00000229937	phosphoribosyl pyrophosphate synthetase 1-like 1 Source HGNC Symbol Acc HGNC 9463
F08	SBH0521484	ENST00000380668.9	PRPS2	ENSG00000101911	phosphoribosyl pyrophosphate synthetase 2 Source HGNC Symbol Acc HGNC 9465
F09	SBH1220349	ENST00000544180.6	PYGL	ENSG00000100504	glycogen phosphorylase L Source HGNC Symbol Acc HGNC 9725
F10	SBH1220350	ENST00000164139.4	PYGM	ENSG00000068976	glycogen phosphorylase, muscle associated Source HGNC Symbol Acc HGNC 9726

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH1220359	ENST00000302188.8	RBKS	ENSG00000171174	ribokinase Source HGNC Symbol Acc HGNC 30325
F12	SBH1220376	ENST00000411934.6	RPE	ENSG00000197713	ribulose-5-phosphate-3-epimerase Source HGNC Symbol Acc HGNC 10293
G01	SBH1220377	ENST00000283646.5	RPIA	ENSG00000153574	ribose 5-phosphate isomerase A Source HGNC Symbol Acc HGNC 10297
G02	SBH1220382	ENST00000617470.4	SDHA	ENSG00000073578	succinate dehydrogenase complex flavoprotein subunit A Source HGNC Symbol Acc HGNC 10680
G03	SBH0151267	ENST00000375499.7	SDHB	ENSG00000117118	succinate dehydrogenase complex iron sulfur subunit B Source HGNC Symbol Acc HGNC 10681
G04	SBH1220383	ENST00000367975.6	SDHC	ENSG00000143252	succinate dehydrogenase complex subunit C Source HGNC Symbol Acc HGNC 10682
G05	SBH0029124	ENST00000640554.1	SDHD	ENSG00000204370	succinate dehydrogenase complex subunit D Source HGNC Symbol Acc HGNC 10683
G06	SBH0343617	ENST00000378654.8	SUCLA2	ENSG00000136143	succinate-CoA ligase ADP-forming beta subunit Source HGNC Symbol Acc HGNC 11448
G07	SBH1220428	ENST00000393868.7	SUCLG1	ENSG00000163541	succinate-CoA ligase alpha subunit Source HGNC Symbol Acc HGNC 11449
G08	SBH0140034	ENST00000307227.9	SUCLG2	ENSG00000172340	succinate-CoA ligase GDP-forming beta subunit Source HGNC Symbol Acc HGNC 11450
G09	SBH0249098	ENST00000319006.8	TALDO1	ENSG00000177156	transaldolase 1 Source HGNC Symbol Acc HGNC 11559
G10	SBH1220458	ENST00000296289.10	TKT	ENSG00000163931	transketolase Source HGNC Symbol Acc HGNC 11834
G11	SBH1220489	ENST00000613953.4	TPI1	ENSG00000111669	triosephosphate isomerase 1 Source HGNC Symbol Acc HGNC 12009
G12	SBH0443886	ENST00000337130.9	UGP2	ENSG00000169764	UDP-glucose pyrophosphorylase 2 Source HGNC Symbol Acc HGNC 12527
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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