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

Human mTOR Signaling

Cat. no. 249950 SBHS-098ZR

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	AKT1	AKT1S1	AKT2	AKT3	CAB39	CAB39L	CDC42	CHUK	DDIT4	DDIT4L	DEPTOR	EIF4B
B	EIF4E	EIF4EBP1	EIF4EBP2	FKBP1A	FKBP8	GSK3B	HIF1A	HRAS	HSPA4	IGF1	IGFBP3	IKBKB
C	ILK	INS	INSR	IRS1	MAPK1	MAPK3	MAPKAP1	MLST8	MTOR	MYO1C	PDPK1	PIK3C3
D	PIK3CA	PIK3CB	PIK3CD	PIK3CG	PLD1	PLD2	PPP2CA	PPP2R2B	PTPA	PRKAA1	PRKAA2	PRKAB1
E	PRKAB2	PRKAG1	PRKAG2	PRKAG3	PRKCA	PRKCB	PRKCE	PRKCG	PTEN	RHEB	RHOA	RICTOR
F	RPS6	RPS6KA1	RPS6KA2	RPS6KA5	RPS6KB1	RPS6KB2	RPTOR	RRAGA	RRAGB	RRAGC	RRAGD	SGK1
G	STK11	STRADB	TELO2	TP53	TSC1	TSC2	ULK1	ULK2	VEGFA	VEGFB	VEGFC	YWHAQ
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	SBH0095396	ENST00000555528.5	AKT1	ENSG00000142208	AKT serine/threonine kinase 1 Source HGNC Symbol Acc HGNC 391
A02	SBH0141493	ENST00000391835.1	AKT1S1	ENSG00000204673	AKT1 substrate 1 Source HGNC Symbol Acc HGNC 28426
A03	SBH0364428	ENST00000492463.6	AKT2	ENSG00000105221	AKT serine/threonine kinase 2 Source HGNC Symbol Acc HGNC 392
A04	SBH0031667	ENST00000463991.5	AKT3	ENSG00000117020	AKT serine/threonine kinase 3 Source HGNC Symbol Acc HGNC 393
A05	SBH0198592	ENST00000258418.10	CAB39	ENSG00000135932	calcium binding protein 39 Source HGNC Symbol Acc HGNC 20292
A06	SBH0129685	ENST00000610540.4	CAB39L	ENSG00000102547	calcium binding protein 39 like Source HGNC Symbol Acc HGNC 20290
A07	SBH0651826	ENST00000651171.1	CDC42	ENSG00000070831	cell division cycle 42 Source HGNC Symbol Acc HGNC 1736
A08	SBH1219887	ENST00000370397.8	CHUK	ENSG00000213341	conserved helix-loop-helix ubiquitous kinase Source HGNC Symbol Acc HGNC 1974
A09	SBH0065799	ENST00000307365.4	DDIT4	ENSG00000168209	DNA damage inducible transcript 4 Source HGNC Symbol Acc HGNC 24944
A10	SBH0120315	ENST00000513992.1	DDIT4L	ENSG00000145358	DNA damage inducible transcript 4 like Source HGNC Symbol Acc HGNC 30555
A11	SBH0128722	ENST00000518057.1	DEPTOR	ENSG00000155792	DEP domain containing MTOR interacting protein Source HGNC Symbol Acc HGNC 22953
A12	SBH0328103	ENST00000549077.5	EIF4B	ENSG00000063046	eukaryotic translation initiation factor 4B Source HGNC Symbol Acc HGNC 3285
B01	SBH0565938	ENST00000505992.1	EIF4E	ENSG00000151247	eukaryotic translation initiation factor 4E Source HGNC Symbol Acc HGNC 3287
B02	SBH0094252	ENST00000338825.5	EIF4EBP1	ENSG00000187840	eukaryotic translation initiation factor 4E binding protein 1 Source HGNC Symbol Acc HGNC 3288
B03	SBH0105548	ENST00000373218.5	EIF4EBP2	ENSG00000148730	eukaryotic translation initiation factor 4E binding protein 2 Source HGNC Symbol Acc HGNC 3289
B04	SBH0509806	ENST00000474657.5	FKBP1A	ENSG00000088832	FKBP prolyl isomerase 1A Source HGNC Symbol Acc HGNC 3711
B05	SBH0337606	ENST00000596015.1	FKBP8	ENSG00000105701	FKBP prolyl isomerase 8 Source HGNC Symbol Acc HGNC 3724
B06	SBH0579883	ENST00000316626.5	GSK3B	ENSG00000082701	glycogen synthase kinase 3 beta Source HGNC Symbol Acc HGNC 4617
B07	SBH1220060	ENST00000323441.10	HIF1A	ENSG00000100644	hypoxia inducible factor 1 subunit alpha Source HGNC Symbol Acc HGNC 4910
B08	SBH0257285	ENST00000493230.5	HRAS	ENSG00000174775	HRas proto-oncogene, GTPase Source HGNC Symbol Acc HGNC 5173
B09	SBH1220071	ENST00000617074.4	HSPA4	ENSG00000170606	heat shock protein family A (Hsp70) member 4 Source HGNC Symbol Acc HGNC 5237
B10	SBH1220091	ENST00000337514.10	IGF1	ENSG00000017427	insulin like growth factor 1 Source HGNC Symbol Acc HGNC 5464
B11	SBH1220092	ENST00000275521.10	IGFBP3	ENSG00000146674	insulin like growth factor binding protein 3 Source HGNC Symbol Acc HGNC 5472
B12	SBH0241248	ENST00000520810.6	IKBKB	ENSG00000104365	inhibitor of nuclear factor kappa B kinase subunit beta Source HGNC Symbol Acc HGNC 5960
C01	SBH0381135	ENST00000299421.8	ILK	ENSG00000166333	integrin linked kinase Source HGNC Symbol Acc HGNC 6040
C02	SBH0403664	ENST00000250971.7	INS	ENSG00000254647	insulin Source HGNC Symbol Acc HGNC 6081
C03	SBH0198962	ENST00000600492.1	INSR	ENSG00000171105	insulin receptor Source HGNC Symbol Acc HGNC 6091
C04	SBH0130188	ENST00000305123.5	IRS1	ENSG00000169047	insulin receptor substrate 1 Source HGNC Symbol Acc HGNC 6125
C05	SBH1220192	ENST00000544786.1	MAPK1	ENSG00000100030	mitogen-activated protein kinase 1 Source HGNC Symbol Acc HGNC 6871
C06	SBH1220194	ENST00000478356.5	MAPK3	ENSG00000102882	mitogen-activated protein kinase 3 Source HGNC Symbol Acc HGNC 6877
C07	SBH0161129	ENST00000394060.7	MAPKAP1	ENSG00000119487	mitogen-activated protein kinase associated protein 1 Source HGNC Symbol Acc HGNC 18752
C08	SBH0144339	ENST00000564088.5	MLST8	ENSG00000167965	MTOR associated protein, LST8 homolog Source HGNC Symbol Acc HGNC 24825
C09	SBH0492696	ENST00000361445.8	MTOR	ENSG00000198793	mechanistic target of rapamycin kinase Source HGNC Symbol Acc HGNC 3942
C10	SBH0552445	ENST00000438665.6	MYO1C	ENSG00000197879	myosin IC Source HGNC Symbol Acc HGNC 7597
		ENST00000441		ENSG00000	3-phosphoinositide dependent protein kinase 1 Source HGNC Symbol Acc

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH0257483	549.7	PDPK1	140992	HGNC 8816
C12	SBH1220312	ENST00000639914.1	PIK3C3	ENSG00000078142	phosphatidylinositol 3-kinase catalytic subunit type 3 Source HGNC Symbol Acc HGNC 8974
D01	SBH0121428	ENST00000462255.1	PIK3CA	ENSG00000121879	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha Source HGNC Symbol Acc HGNC 8975
D02	SBH0158849	ENST00000477593.5	PIK3CB	ENSG00000051382	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit beta Source HGNC Symbol Acc HGNC 8976
D03	SBH0495005	ENST00000536656.5	PIK3CD	ENSG00000171608	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit delta Source HGNC Symbol Acc HGNC 8977
D04	SBH1220313	ENST00000496166.6	PIK3CG	ENSG00000105851	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit gamma Source HGNC Symbol Acc HGNC 8978
D05	SBH0011147	ENST00000498278.5	PLD1	ENSG00000075651	phospholipase D1 Source HGNC Symbol Acc HGNC 9067
D06	SBH0553886	ENST00000263088.11	PLD2	ENSG00000129219	phospholipase D2 Source HGNC Symbol Acc HGNC 9068
D07	SBH0088930	ENST00000522385.1	PPP2CA	ENSG00000113575	protein phosphatase 2 catalytic subunit alpha Source HGNC Symbol Acc HGNC 9299
D08	SBH0077913	ENST00000508545.6	PPP2R2B	ENSG00000156475	protein phosphatase 2 regulatory subunit Bbeta Source HGNC Symbol Acc HGNC 9305
D09	SBH0230240	ENST00000434095.2	PTPA	ENSG00000119383	protein phosphatase 2 phosphatase activator Source HGNC Symbol Acc HGNC 9308
D10	SBH1220332	ENST00000397128.6	PRKAA1	ENSG00000132356	protein kinase AMP-activated catalytic subunit alpha 1 Source HGNC Symbol Acc HGNC 9376
D11	SBH0060864	ENST00000371244.9	PRKAA2	ENSG00000162409	protein kinase AMP-activated catalytic subunit alpha 2 Source HGNC Symbol Acc HGNC 9377
D12	SBH0514318	ENST00000545223.1	PRKAB1	ENSG00000111725	protein kinase AMP-activated non-catalytic subunit beta 1 Source HGNC Symbol Acc HGNC 9378
E01	SBH0146629	ENST00000254101.4	PRKAB2	ENSG00000131791	protein kinase AMP-activated non-catalytic subunit beta 2 Source HGNC Symbol Acc HGNC 9379
E02	SBH0638541	ENST00000550125.5	PRKAG1	ENSG00000181929	protein kinase AMP-activated non-catalytic subunit gamma 1 Source HGNC Symbol Acc HGNC 9385
E03	SBH0170149	ENST00000652136.1	PRKAG2	ENSG00000106617	protein kinase AMP-activated non-catalytic subunit gamma 2 Source HGNC Symbol Acc HGNC 9386
E04	SBH0373404	ENST00000430489.1	PRKAG3	ENSG00000115592	protein kinase AMP-activated non-catalytic subunit gamma 3 Source HGNC Symbol Acc HGNC 9387
E05	SBH0105563	ENST00000578063.5	PRKCA	ENSG00000154229	protein kinase C alpha Source HGNC Symbol Acc HGNC 9393
E06	SBH0521170	ENST00000472066.1	PRKCB	ENSG00000166501	protein kinase C beta Source HGNC Symbol Acc HGNC 9395
E07	SBH0647980	ENST00000480453.5	PRKCE	ENSG00000171132	protein kinase C epsilon Source HGNC Symbol Acc HGNC 9401
E08	SBH0670634	ENST00000419486.1	PRKCG	ENSG00000126583	protein kinase C gamma Source HGNC Symbol Acc HGNC 9402
E09	SBH1225378	ENST00000371953.8	PTEN	ENSG00000171862	phosphatase and tensin homolog Source HGNC Symbol Acc HGNC 9588
E10	SBH0210154	ENST00000478470.5	RHEB	ENSG00000106615	Ras homolog, mTORC1 binding Source HGNC Symbol Acc HGNC 10011
E11	SBH1220367	ENST00000418115.6	RHOA	ENSG00000067560	ras homolog family member A Source HGNC Symbol Acc HGNC 667
E12	SBH0668784	ENST00000510711.5	RICTOR	ENSG00000164327	RPTOR independent companion of MTOR complex 2 Source HGNC Symbol Acc HGNC 28611
F01	SBH0008790	ENST00000380384.5	RPS6	ENSG00000137154	ribosomal protein S6 Source HGNC Symbol Acc HGNC 10429
F02	SBH0278599	ENST00000530607.1	RPS6KA1	ENSG00000117676	ribosomal protein S6 kinase A1 Source HGNC Symbol Acc HGNC 10430
F03	SBH0255477	ENST00000503859.5	RPS6KA2	ENSG00000071242	ribosomal protein S6 kinase A2 Source HGNC Symbol Acc HGNC 10431
F04	SBH1220378	ENST00000614987.5	RPS6KA5	ENSG00000100784	ribosomal protein S6 kinase A5 Source HGNC Symbol Acc HGNC 10434
F05	SBH1220379	ENST00000406116.7	RPS6KB1	ENSG00000108443	ribosomal protein S6 kinase B1 Source HGNC Symbol Acc HGNC 10436
F06	SBH0493284	ENST00000524934.5	RPS6KB2	ENSG00000175634	ribosomal protein S6 kinase B2 Source HGNC Symbol Acc HGNC 10437
F07	SBH0486982	ENST00000306801.8	RPTOR	ENSG00000141564	regulatory associated protein of MTOR complex 1 Source HGNC Symbol Acc HGNC 30287
F08	SBH0029396	ENST00000380527.2	RRAGA	ENSG00000155876	Ras related GTP binding A Source HGNC Symbol Acc HGNC 16963
F09	SBH0329939	ENST00000414239.5	RRAGB	ENSG00000083750	Ras related GTP binding B Source HGNC Symbol Acc HGNC 19901
F10	SBH0066368	ENST00000373001.4	RRAGC	ENSG00000116954	Ras related GTP binding C Source HGNC Symbol Acc HGNC 19902

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH0356393	ENST00000492783.1	RRAGD	ENSG00000025039	Ras related GTP binding D Source HGNC Symbol Acc HGNC 19903
F12	SBH0624710	ENST00000528577.5	SGK1	ENSG00000118515	serum/glucocorticoid regulated kinase 1 Source HGNC Symbol Acc HGNC 10810
G01	SBH0428349	ENST00000589152.5	STK11	ENSG00000118046	serine/threonine kinase 11 Source HGNC Symbol Acc HGNC 11389
G02	SBH0459860	ENST00000447698.5	STRADB	ENSG00000082146	STE20 related adaptor beta Source HGNC Symbol Acc HGNC 13205
G03	SBH0037646	ENST00000564507.5	TELO2	ENSG00000100726	telomere maintenance 2 Source HGNC Symbol Acc HGNC 29099
G04	SBH1220486	ENST00000445888.6	TP53	ENSG00000141510	tumor protein p53 Source HGNC Symbol Acc HGNC 11998
G05	SBH0061747	ENST00000647506.1	TSC1	ENSG00000165699	TSC complex subunit 1 Source HGNC Symbol Acc HGNC 12362
G06	SBH0580963	ENST00000644399.1	TSC2	ENSG00000103197	TSC complex subunit 2 Source HGNC Symbol Acc HGNC 12363
G07	SBH1220504	ENST00000321867.6	ULK1	ENSG00000177169	unc-51 like autophagy activating kinase 1 Source HGNC Symbol Acc HGNC 12558
G08	SBH1220505	ENST00000395544.9	ULK2	ENSG00000083290	unc-51 like autophagy activating kinase 2 Source HGNC Symbol Acc HGNC 13480
G09	SBH0420322	ENST00000425836.6	VEGFA	ENSG00000112715	vascular endothelial growth factor A Source HGNC Symbol Acc HGNC 12680
G10	SBH0589017	ENST00000309422.6	VEGFB	ENSG00000173511	vascular endothelial growth factor B Source HGNC Symbol Acc HGNC 12681
G11	SBH1220517	ENST00000618562.2	VEGFC	ENSG00000150630	vascular endothelial growth factor C Source HGNC Symbol Acc HGNC 12682
G12	SBH0646571	ENST00000474715.1	YWHAQ	ENSG00000134308	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein theta Source HGNC Symbol Acc HGNC 12854
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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