

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

## Human Toll-Like Receptor Signaling Pathway

Cat. no. 249950 SBHS-018ZR

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](http://www.qiagen.com) for further details.

	1	2	3	4	5	6	7	8	9	10	11	12
A	BTK	CASP8	CCL2	CD14	CD180	CD80	CD86	CHUK	CLEC4E	CSF2	CSF3	CXCL10
B	ECSIT	EIF2AK2	ELK1	FADD	FOS	HMG1	HRAS	HSPA1A	HSPD1	IFNA1	IFNB1	IFNG
C	IKKB	IL10	IL12A	IL1A	IL1B	IL2	IL6	CXCL8	IRAK1	IRAK2	IRAK4	IRF1
D	IRF3	JUN	LTA	LY86	LY96	MAP2K3	MAP2K4	MAP3K1	MAP3K7	MAP4K4	MAPK8	MAPK8IP3
E	MYD88	NFKB1	NFKB2	NFKBIA	NFKBIL1	NFRKB	NR2C2	PEL1	PPARA	PRKRA	PTGS2	REL
F	RELA	RIPK2	SARM1	SIGIRR	TAB1	TBK1	TICAM1	TICAM2	TIRAP	TLR1	TLR10	TLR2
G	TLR3	TLR4	TLR5	TLR6	TLR7	TLR8	TLR9	TNF	TNFRSF1A	TOLLIP	TRAF6	UBE2N
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	SBH0014638	ENST00000308731.7	BTK	ENSG00000010671	Bruton tyrosine kinase Source HGNC Symbol Acc HGNC 1133
A02	SBH0075404	ENST000003358485.8	CASP8	ENSG000000064012	caspase 8 Source HGNC Symbol Acc HGNC 1509
A03	SBH0228134	ENST00000225831.4	CCL2	ENSG000000108691	C-C motif chemokine ligand 2 Source HGNC Symbol Acc HGNC 10618
A04	SBH1219857	ENST00000512545.1	CD14	ENSG000000170458	CD14 molecule Source HGNC Symbol Acc HGNC 1628
A05	SBH1219858	ENST00000256447.5	CD180	ENSG000000134061	CD180 molecule Source HGNC Symbol Acc HGNC 6726
A06	SBH1219864	ENST00000264246.8	CD80	ENSG000000121594	CD80 molecule Source HGNC Symbol Acc HGNC 1700
A07	SBH0280451	ENST00000393627.6	CD86	ENSG000000114013	CD86 molecule Source HGNC Symbol Acc HGNC 1705
A08	SBH1219887	ENST00000370397.8	CHUK	ENSG000000213341	conserved helix-loop-helix ubiquitous kinase Source HGNC Symbol Acc HGNC 1974
A09	SBH1219892	ENST00000299663.7	CLEC4E	ENSG000000166523	C-type lectin domain family 4 member E Source HGNC Symbol Acc HGNC 14555
A10	SBH1219914	ENST00000296871.4	CSF2	ENSG000000164400	colony stimulating factor 2 Source HGNC Symbol Acc HGNC 2434
A11	SBH0378721	ENST00000225474.6	CSF3	ENSG000000108342	colony stimulating factor 3 Source HGNC Symbol Acc HGNC 2438
A12	SBH1219927	ENST00000306602.3	CXCL10	ENSG000000169245	C-X-C motif chemokine ligand 10 Source HGNC Symbol Acc HGNC 10637
B01	SBH1219967	ENST00000588998.5	ECSIT	ENSG000000130159	ECSIT signalling integrator Source HGNC Symbol Acc HGNC 29548
B02	SBH1219971	ENST00000233057.9	EIF2AK2	ENSG000000055332	eukaryotic translation initiation factor 2 alpha kinase 2 Source HGNC Symbol Acc HGNC 9437
B03	SBH1219973	ENST00000376983.8	ELK1	ENSG000000126767	ELK1, ETS transcription factor Source HGNC Symbol Acc HGNC 3321
B04	SBH0294674	ENST00000301838.4	FADD	ENSG000000168040	Fas associated via death domain Source HGNC Symbol Acc HGNC 3573
B05	SBH1220004	ENST00000554617.1	FOS	ENSG000000170345	Fos proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 3796
B06	SBH1220066	ENST00000341423.10	HMGB1	ENSG000000189403	high mobility group box 1 Source HGNC Symbol Acc HGNC 4983
B07	SBH0257285	ENST00000493230.5	HRAS	ENSG000000174775	HRas proto-oncogene, GTPase Source HGNC Symbol Acc HGNC 5173
B08	SBH0315359	ENST00000375651.6	HSPA1A	ENSG000000204389	heat shock protein family A (Hsp70) member 1A Source HGNC Symbol Acc HGNC 5232
B09	SBH1220074	ENST00000388968.8	HSPD1	ENSG000000144381	heat shock protein family D (Hsp60) member 1 Source HGNC Symbol Acc HGNC 5261
B10	SBH0388912	ENST00000276927.2	IFNA1	ENSG000000197919	interferon alpha 1 Source HGNC Symbol Acc HGNC 5417
B11	SBH1220089	ENST00000380232.4	IFNB1	ENSG000000171855	interferon beta 1 Source HGNC Symbol Acc HGNC 5434
B12	SBH1220090	ENST00000229135.4	IFNG	ENSG000000111537	interferon gamma Source HGNC Symbol Acc HGNC 5438
C01	SBH0241248	ENST00000520810.6	IKKBK	ENSG000000104365	inhibitor of nuclear factor kappa B kinase subunit beta Source HGNC Symbol Acc HGNC 5960
C02	SBH1220095	ENST00000423557.1	IL10	ENSG000000136634	interleukin 10 Source HGNC Symbol Acc HGNC 5962
C03	SBH1220098	ENST00000305579.7	IL12A	ENSG000000168811	interleukin 12A Source HGNC Symbol Acc HGNC 5969
C04	SBH0663647	ENST00000263339.3	IL1A	ENSG000000115008	interleukin 1 alpha Source HGNC Symbol Acc HGNC 5991
C05	SBH0079231	ENST00000263341.6	IL1B	ENSG000000125538	interleukin 1 beta Source HGNC Symbol Acc HGNC 5992
C06	SBH0225582	ENST00000226730.4	IL2	ENSG000000109471	interleukin 2 Source HGNC Symbol Acc HGNC 6001
C07	SBH1220111	ENST00000401630.7	IL6	ENSG000000136244	interleukin 6 Source HGNC Symbol Acc HGNC 6018
C08	SBH1219932	ENST00000401931.1	CXCL8	ENSG000000169429	C-X-C motif chemokine ligand 8 Source HGNC Symbol Acc HGNC 6025
C09	SBH1220119	ENST00000393687.6	IRAK1	ENSG000000184216	interleukin 1 receptor associated kinase 1 Source HGNC Symbol Acc HGNC 6112
C10	SBH1220120	ENST00000256458.5	IRAK2	ENSG000000134070	interleukin 1 receptor associated kinase 2 Source HGNC Symbol Acc HGNC 6113
		ENST000000613		ENSG000000	interleukin 1 receptor associated kinase 4 Source HGNC Symbol Acc HGNC

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBH1220121	694.4	IRAK4	198001	17967
C12	SBH1220122	ENST00000245414.9	IRF1	ENSG00000125347	interferon regulatory factor 1 Source HGNC Symbol Acc HGNC 6116
D01	SBH1220124	ENST00000601809.5	IRF3	ENSG00000126456	interferon regulatory factor 3 Source HGNC Symbol Acc HGNC 6118
D02	SBH0613340	ENST00000371222.3	JUN	ENSG00000177606	Jun proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 6204
D03	SBH0249281	ENST00000418386.2	LTA	ENSG00000226979	lymphotoxin alpha Source HGNC Symbol Acc HGNC 6709
D04	SBH1220182	ENST00000230568.5	LY86	ENSG00000112799	lymphocyte antigen 86 Source HGNC Symbol Acc HGNC 16837
D05	SBH1220183	ENST00000284818.6	LY96	ENSG00000154589	lymphocyte antigen 96 Source HGNC Symbol Acc HGNC 17156
D06	SBH1220188	ENST00000613338.4	MAP2K3	ENSG00000034152	mitogen-activated protein kinase kinase 3 Source HGNC Symbol Acc HGNC 6843
D07	SBH1220189	ENST00000353533.10	MAP2K4	ENSG00000065559	mitogen-activated protein kinase kinase 4 Source HGNC Symbol Acc HGNC 6844
D08	SBH1220190	ENST00000399503.4	MAP3K1	ENSG00000095015	mitogen-activated protein kinase kinase kinase 1 Source HGNC Symbol Acc HGNC 6848
D09	SBH1220191	ENST00000369329.8	MAP3K7	ENSG00000135341	mitogen-activated protein kinase kinase kinase 7 Source HGNC Symbol Acc HGNC 6859
D10	SBH0125466	ENST00000634702.1	MAP4K4	ENSG00000071054	mitogen-activated protein kinase kinase kinase kinase 4 Source HGNC Symbol Acc HGNC 6866
D11	SBH0294318	ENST00000395611.7	MAPK8	ENSG00000107643	mitogen-activated protein kinase 8 Source HGNC Symbol Acc HGNC 6881
D12	SBH0611318	ENST00000250894.8	MAPK8IP3	ENSG00000138834	mitogen-activated protein kinase 8 interacting protein 3 Source HGNC Symbol Acc HGNC 6884
E01	SBH0303234	ENST00000648963.1	MYD88	ENSG00000172936	MYD88, innate immune signal transduction adaptor Source HGNC Symbol Acc HGNC 7562
E02	SBH1220264	ENST00000651197.1	NFKB1	ENSG00000109320	nuclear factor kappa B subunit 1 Source HGNC Symbol Acc HGNC 7794
E03	SBH1220265	ENST00000652277.1	NFKB2	ENSG00000077150	nuclear factor kappa B subunit 2 Source HGNC Symbol Acc HGNC 7795
E04	SBH0552847	ENST00000216797.9	NFKBIA	ENSG00000100906	NFKB inhibitor alpha Source HGNC Symbol Acc HGNC 7797
E05	SBH1220266	ENST00000376145.8	NFKBIL1	ENSG00000204498	NFKB inhibitor like 1 Source HGNC Symbol Acc HGNC 7800
E06	SBH1220267	ENST00000524746.5	NFRKB	ENSG00000170322	nuclear factor related to kappaB binding protein Source HGNC Symbol Acc HGNC 7802
E07	SBH0445760	ENST00000323373.10	NR2C2	ENSG00000177463	nuclear receptor subfamily 2 group C member 2 Source HGNC Symbol Acc HGNC 7972
E08	SBH1220300	ENST00000358912.5	PELI1	ENSG00000197329	pellino E3 ubiquitin protein ligase 1 Source HGNC Symbol Acc HGNC 8827
E09	SBH1220322	ENST00000407236.5	PPARA	ENSG00000186951	peroxisome proliferator activated receptor alpha Source HGNC Symbol Acc HGNC 9232
E10	SBH0168384	ENST00000487082.5	PRKRA	ENSG00000180228	protein activator of interferon induced protein kinase EIF2AK2 Source HGNC Symbol Acc HGNC 9438
E11	SBH1220344	ENST00000367468.10	PTGS2	ENSG00000073756	prostaglandin-endoperoxide synthase 2 Source HGNC Symbol Acc HGNC 9605
E12	SBH1220362	ENST00000394479.3	REL	ENSG00000162924	REL proto-oncogene, NF-kB subunit Source HGNC Symbol Acc HGNC 9954
F01	SBH1220363	ENST00000532999.5	RELA	ENSG00000173039	RELA proto-oncogene, NF-kB subunit Source HGNC Symbol Acc HGNC 9955
F02	SBH1220370	ENST00000220751.5	RIPK2	ENSG00000104312	receptor interacting serine/threonine kinase 2 Source HGNC Symbol Acc HGNC 10020
F03	SBH1220380	ENST00000578128.5	SARM1	ENSG00000004139	sterile alpha and TIR motif containing 1 Source HGNC Symbol Acc HGNC 17074
F04	SBH0304145	ENST00000332725.7	SIGIRR	ENSG00000185187	single Ig and TIR domain containing Source HGNC Symbol Acc HGNC 30575
F05	SBH1220431	ENST00000216160.11	TAB1	ENSG00000100324	TGF-beta activated kinase 1 (MAP3K7) binding protein 1 Source HGNC Symbol Acc HGNC 18157
F06	SBH1220433	ENST00000652657.1	TBK1	ENSG00000183735	TANK binding kinase 1 Source HGNC Symbol Acc HGNC 11584
F07	SBH1220451	ENST00000248244.5	TICAM1	ENSG00000127666	toll like receptor adaptor molecule 1 Source NCBI gene Acc 148022
F08	SBH1220452	ENST00000427199.2	TICAM2	ENSG00000243414	toll like receptor adaptor molecule 2 Source HGNC Symbol Acc HGNC 21354
F09	SBH0413608	ENST00000392680.6	TIRAP	ENSG00000150455	TIR domain containing adaptor protein Source HGNC Symbol Acc HGNC 17192
F10	SBH1220460	ENST00000506146.5	TLR1	ENSG00000174125	toll like receptor 1 Source HGNC Symbol Acc HGNC 11847

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBH1220461	ENST00000308973.9	TLR10	ENSG00000174123	toll like receptor 10 Source HGNC Symbol Acc HGNC 15634
F12	SBH0671922	ENST00000642700.1	TLR2	ENSG00000137462	toll like receptor 2 Source HGNC Symbol Acc HGNC 11848
G01	SBH1220462	ENST00000513189.1	TLR3	ENSG00000164342	toll like receptor 3 Source HGNC Symbol Acc HGNC 11849
G02	SBH0092782	ENST00000355622.8	TLR4	ENSG00000136869	toll like receptor 4 Source HGNC Symbol Acc HGNC 11850
G03	SBH1220463	ENST00000366881.6	TLR5	ENSG00000187554	toll like receptor 5 Source HGNC Symbol Acc HGNC 11851
G04	SBH1220464	ENST00000436693.6	TLR6	ENSG00000174130	toll like receptor 6 Source HGNC Symbol Acc HGNC 16711
G05	SBH1220465	ENST00000380659.4	TLR7	ENSG00000196664	toll like receptor 7 Source HGNC Symbol Acc HGNC 15631
G06	SBH0265788	ENST00000218032.6	TLR8	ENSG00000101916	toll like receptor 8 Source HGNC Symbol Acc HGNC 15632
G07	SBH1220466	ENST00000360658.2	TLR9	ENSG00000239732	toll like receptor 9 Source HGNC Symbol Acc HGNC 15633
G08	SBH1220471	ENST00000449264.3	TNF	ENSG00000232810	tumor necrosis factor Source HGNC Symbol Acc HGNC 11892
G09	SBH0080951	ENST00000162749.6	TNFRSF1A	ENSG00000067182	TNF receptor superfamily member 1A Source HGNC Symbol Acc HGNC 11916
G10	SBH1220484	ENST00000530541.1	TOLLIP	ENSG00000078902	toll interacting protein Source HGNC Symbol Acc HGNC 16476
G11	SBH1220493	ENST00000526995.6	TRAF6	ENSG00000175104	TNF receptor associated factor 6 Source HGNC Symbol Acc HGNC 12036
G12	SBH1220502	ENST00000549833.1	UBE2N	ENSG00000177889	ubiquitin conjugating enzyme E2 N Source HGNC Symbol Acc HGNC 12492
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 $\mu$ l reactions: 20 $\mu$ l 8x gDNA Removal Mix, 10 $\mu$ l Reverse Transcription Enzyme, 40 $\mu$ l Reverse Transcription Mix (containing RT primers), 20 $\mu$ l Internal Control RNA, 1.9 ml RNase-Free Water	205410
QuantiNova SYBR Green RT-PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 $\mu$ l QuantiNova SYBR Green RT Mix, 20 $\mu$ l Internal Control RNA, 500 $\mu$ l Yellow Template Dilution Buffer, 250 $\mu$ l ROX Reference Dye, 1.9 $\mu$ l RNase-Free Water	208152
QuantiNova SYBR Green PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 $\mu$ l QuantiNova Yellow Template Dilution Buffer, 250 $\mu$ 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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