

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

## Mouse Apoptosis

Cat. no. 249950 SBMM-012ZA

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

	1	2	3	4	5	6	7	8	9	10	11	12
A	Abl1	Aifm1	Akt1	Anxa5	Apaf1	Api5	Aif5	Bad	Bag1	Bag3	Bak1	Bax
B	Bcl10	Bcl2	Bcl2a1a	Bcl2l1	Bcl2l10	Bcl2l11	Bcl2l2	Bid	Birc2	Birc3	Birc5	Bnip2
C	Bnip3	Bnip3l	Bok	Card10	Casp1	Casp12	Casp14	Casp2	Casp3	Casp4	Casp6	Casp7
D	Casp8	Casp9	Cd40	Cd40lg	Cd70	Cflar	Cidea	Cideb	Cradd	Dad1	Dapk1	Dffa
E	Dffb	Diablo	Fadd	Fas	Fasl	Gadd45a	Igf1r	Il10	Lhx4	Ltbr	Mapk1	Mcl1
F	Noip1	Noip2	Nfk1	Nme5	Nod1	Nol3	Polb	Prdx2	Pycard	Ripk1	Tnf	Tnfrsf10b
G	Tnfrsf11b	Tnfrsf1a	Tnfrsf10	Tnfrsf12	Traf1	Traf2	Traf3	Trp53	Trp53bp2	Trp63	Trp73	Xiap
H	Actb	B2m	Gapdh	Gusb	Hsp90ab1	MGDC	QIC	QIC	QIC	PPC	PPC	PPC

## Gene table: QuantiNova LNA PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	SBM1025688	ENSMUST00000127714.1	Abl1	ENSMUSG0000026842	c-abl oncogene 1, non-receptor tyrosine kinase Source MGI Symbol Acc MGI 87859
A02	SBM0871924	ENSMUST00000143466.7	Aifm1	ENSMUSG0000036932	apoptosis-inducing factor, mitochondrion-associated 1 Source MGI Symbol Acc MGI 1349419
A03	SBM1020452	ENSMUST00000144550.8	Akt1	ENSMUSG0000001729	thymoma viral proto-oncogene 1 Source MGI Symbol Acc MGI 87986
A04	SBM1073515	ENSMUST00000199478.1	Anxa5	ENSMUSG0000027712	annexin A5 Source MGI Symbol Acc MGI 106008
A05	SBM0931259	ENSMUST00000160788.1	Apaf1	ENSMUSG0000019979	apoptotic peptidase activating factor 1 Source MGI Symbol Acc MGI 1306796
A06	SBM1070325	ENSMUST00000028617.6	Api5	ENSMUSG0000027193	apoptosis inhibitor 5 Source MGI Symbol Acc MGI 1888993
A07	SBM0892681	ENSMUST00000047356.10	Atf5	ENSMUSG0000038539	activating transcription factor 5 Source MGI Symbol Acc MGI 2141857
A08	SBM0983531	ENSMUST00000238184.1	Bad	ENSMUSG0000024959	BCL2-associated agonist of cell death Source MGI Symbol Acc MGI 1096330
A09	SBM0738052	ENSMUST00000030125.4	Bag1	ENSMUSG0000028416	BCL2-associated athanogene 1 Source MGI Symbol Acc MGI 108047
A10	SBM0937285	ENSMUST00000033136.8	Bag3	ENSMUSG0000030847	BCL2-associated athanogene 3 Source MGI Symbol Acc MGI 1352493
A11	SBM0828888	ENSMUST00000143158.2	Bak1	ENSMUSG0000057789	BCL2-antagonist/killer 1 Source MGI Symbol Acc MGI 1097161
A12	SBM0740166	ENSMUST00000211615.1	Bax	ENSMUSG0000003873	BCL2-associated X protein Source MGI Symbol Acc MGI 99702
B01	SBM0913860	ENSMUST00000198122.1	Bcl10	ENSMUSG0000028191	B cell leukemia/lymphoma 10 Source MGI Symbol Acc MGI 1337994
B02	SBM0876340	ENSMUST00000189999.1	Bcl2	ENSMUSG0000057329	B cell leukemia/lymphoma 2 Source MGI Symbol Acc MGI 88138
B03	SBM1020275	ENSMUST00000098485.3	Bcl2a1a	ENSMUSG0000102037	B cell leukemia/lymphoma 2 related protein A1a Source MGI Symbol Acc MGI 102687
B04	SBM0751583	ENSMUST00000134357.1	Bcl2l1	ENSMUSG0000007659	BCL2-like 1 Source MGI Symbol Acc MGI 88139
B05	SBM0875237	ENSMUST00000034709.5	Bcl2l10	ENSMUSG0000032191	Bcl2-like 10 Source MGI Symbol Acc MGI 1330841
B06	SBM1049841	ENSMUST00000089634.11	Bcl2l11	ENSMUSG0000027381	BCL2-like 11 (apoptosis facilitator) Source MGI Symbol Acc MGI 1197519
B07	SBM0990586	ENSMUST00000133397.3	Bcl2l2	ENSMUSG0000089682	BCL2-like 2 Source MGI Symbol Acc MGI 108052
B08	SBM0938087	ENSMUST00000160684.7	Bid	ENSMUSG0000004446	BH3 interacting domain death agonist Source MGI Symbol Acc MGI 108093
B09	SBM0791338	ENSMUST00000190341.6	Birc2	ENSMUSG0000057367	baculoviral IAP repeat-containing 2 Source MGI Symbol Acc MGI 1197009
B10	SBM0873926	ENSMUST00000115672.1	Birc3	ENSMUSG0000032000	baculoviral IAP repeat-containing 3 Source MGI Symbol Acc MGI 1197007
B11	SBM0773958	ENSMUST00000081387.10	Birc5	ENSMUSG0000017716	baculoviral IAP repeat-containing 5 Source MGI Symbol Acc MGI 1203517
B12	SBM0920616	ENSMUST00000034754.11	Bnip2	ENSMUSG0000011958	BCL2/adenovirus E1B interacting protein 2 Source MGI Symbol Acc MGI 109327
C01	SBM0840313	ENSMUST00000130500.7	Bnip3	ENSMUSG0000078566	BCL2/adenovirus E1B interacting protein 3 Source MGI Symbol Acc MGI 109326
C02	SBM0756647	ENSMUST00000129605.1	Bnip3l	ENSMUSG0000022051	BCL2/adenovirus E1B interacting protein 3-like Source MGI Symbol Acc MGI 1332659
C03	SBM0799148	ENSMUST00000185685.1	Bok	ENSMUSG0000026278	BCL2-related ovarian killer Source MGI Symbol Acc MGI 1858494
C04	SBM0863714	ENSMUST00000170584.1	Card10	ENSMUSG0000033170	caspase recruitment domain family, member 10 Source MGI Symbol Acc MGI 2146012
C05	SBM0862549	ENSMUST00000027015.5	Casp1	ENSMUSG0000025888	caspase 1 Source MGI Symbol Acc MGI 96544
C06	SBM1026114	ENSMUST00000151788.7	Casp12	ENSMUSG0000025887	caspase 12 Source MGI Symbol Acc MGI 1312922
C07	SBM0909732	ENSMUST00000005488.8	Casp14	ENSMUSG0000005355	caspase 14 Source MGI Symbol Acc MGI 1335092
C08	SBM1225390	ENSMUST00000031895.12	Casp2	ENSMUSG0000029863	caspase 2 Source MGI Symbol Acc MGI 97295
C09	SBM0732165	ENSMUST00000093517.6	Casp3	ENSMUSG0000031628	caspase 3 Source MGI Symbol Acc MGI 107739
C10	SBM0716005	ENSMUST00000160064.7	Casp4	ENSMUSG0000033538	caspase 4, apoptosis-related cysteine peptidase Source MGI Symbol Acc MGI 107700
		ENSMUST00000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBM0701958	137314.1	Casp6	000027997	caspase 6 Source MGI Symbol Acc MGI 1312921
C12	SBM1225391	ENSMUST00000 026062.9	Casp7	ENSMUSG00 000025076	caspase 7 Source MGI Symbol Acc MGI 109383
D01	SBM0772558	ENSMUST00000 027189.14	Casp8	ENSMUSG00 000026029	caspase 8 Source MGI Symbol Acc MGI 1261423
D02	SBM0686567	ENSMUST00000 097805.10	Casp9	ENSMUSG00 000028914	caspase 9 Source MGI Symbol Acc MGI 1277950
D03	SBM0757957	ENSMUST00000 073707.8	Cd40	ENSMUSG00 000017652	CD40 antigen Source MGI Symbol Acc MGI 88336
D04	SBM0708134	ENSMUST00000 033466.1	Cd40lg	ENSMUSG00 000031132	CD40 ligand Source MGI Symbol Acc MGI 88337
D05	SBM0822094	ENSMUST00000 019633.7	Cd70	ENSMUSG00 000019489	CD70 antigen Source MGI Symbol Acc MGI 1195273
D06	SBM0727764	ENSMUST00000 124567.1	Cflar	ENSMUSG00 000026031	CASP8 and FADD-like apoptosis regulator Source MGI Symbol Acc MGI 1336166
D07	SBM1046343	ENSMUST00000 025404.9	Cidea	ENSMUSG00 000024526	cell death-inducing DNA fragmentation factor, alpha subunit-like effector A Source MGI Symbol Acc MGI 1270845
D08	SBM0952526	ENSMUST00000 136270.1	Cideb	ENSMUSG00 000022219	cell death-inducing DNA fragmentation factor, alpha subunit-like effector B Source MGI Symbol Acc MGI 1270844
D09	SBM0880165	ENSMUST00000 217809.1	Cradd	ENSMUSG00 000045867	CASP2 and RIPK1 domain containing adaptor with death domain Source MGI Symbol Acc MGI 1336168
D10	SBM0845465	ENSMUST00000 128231.1	Dad1	ENSMUSG00 000022174	defender against cell death 1 Source MGI Symbol Acc MGI 101912
D11	SBM0822721	ENSMUST00000 226059.1	Dapk1	ENSMUSG00 000021559	death associated protein kinase 1 Source MGI Symbol Acc MGI 1916885
D12	SBM0824483	ENSMUST00000 030816.3	Dffa	ENSMUSG00 000028974	DNA fragmentation factor, alpha subunit Source MGI Symbol Acc MGI 1196227
E01	SBM1225393	ENSMUST00000 030893.2	Dffb	ENSMUSG00 000029027	DNA fragmentation factor, beta subunit Source MGI Symbol Acc MGI 1196287
E02	SBM0814610	ENSMUST00000 145152.7	Diablo	ENSMUSG00 000029433	diablo, IAP-binding mitochondrial protein Source MGI Symbol Acc MGI 1913843
E03	SBM0895464	ENSMUST00000 033394.7	Fadd	ENSMUSG00 000031077	Fas (TNFRSF6)-associated via death domain Source MGI Symbol Acc MGI 109324
E04	SBM0856649	ENSMUST00000 112472.3	Fas	ENSMUSG00 000024778	Fas (TNF receptor superfamily member 6) Source MGI Symbol Acc MGI 95484
E05	SBM0967876	ENSMUST00000 000834.3	Fasl	ENSMUSG00 000000817	Fas ligand (TNF superfamily, member 6) Source MGI Symbol Acc MGI 99255
E06	SBM0962210	ENSMUST00000 151958.1	Gadd45a	ENSMUSG00 000036390	growth arrest and DNA-damage-inducible 45 alpha Source MGI Symbol Acc MGI 107799
E07	SBM0769269	ENSMUST00000 207621.1	Igf1r	ENSMUSG00 000005533	insulin-like growth factor I receptor Source MGI Symbol Acc MGI 96433
E08	SBM1004151	ENSMUST00000 016673.5	Il10	ENSMUSG00 000016529	interleukin 10 Source MGI Symbol Acc MGI 96537
E09	SBM0874261	ENSMUST00000 195275.1	Lhx4	ENSMUSG00 000026468	LIM homeobox protein 4 Source MGI Symbol Acc MGI 101776
E10	SBM0696880	ENSMUST00000 032489.7	Ltbr	ENSMUSG00 000030339	lymphotoxin B receptor Source MGI Symbol Acc MGI 104875
E11	SBM0800614	ENSMUST00000 231821.1	Mapk1	ENSMUSG00 000063358	mitogen-activated protein kinase 1 Source MGI Symbol Acc MGI 1346858
E12	SBM0701175	ENSMUST00000 178686.1	Mcl1	ENSMUSG00 000038612	myeloid cell leukemia sequence 1 Source MGI Symbol Acc MGI 101769
F01	SBM0812415	ENSMUST00000 221727.1	Naip1	ENSMUSG00 000021640	NLR family, apoptosis inhibitory protein 1 Source MGI Symbol Acc MGI 1298223
F02	SBM0857612	ENSMUST00000 067975.11	Naip2	ENSMUSG00 000078945	NLR family, apoptosis inhibitory protein 2 Source MGI Symbol Acc MGI 1298226
F03	SBM0841870	ENSMUST00000 164430.6	Nfkb1	ENSMUSG00 000028163	nuclear factor of kappa light polypeptide gene enhancer in B cells 1, p105 Source MGI Symbol Acc MGI 97312
F04	SBM0924304	ENSMUST00000 155114.1	Nme5	ENSMUSG00 000035984	NME/NM23 family member 5 Source MGI Symbol Acc MGI 1922783
F05	SBM0681489	ENSMUST00000 205242.1	Nod1	ENSMUSG00 000038058	nucleotide-binding oligomerization domain containing 1 Source MGI Symbol Acc MGI 1341839
F06	SBM0777438	ENSMUST00000 014920.7	Nol3	ENSMUSG00 000014776	nucleolar protein 3 (apoptosis repressor with CARD domain) Source MGI Symbol Acc MGI 1925938
F07	SBM0888675	ENSMUST00000 033938.6	Polb	ENSMUSG00 000031536	polymerase (DNA directed), beta Source MGI Symbol Acc MGI 97740
F08	SBM0684492	ENSMUST00000 164807.1	Prdx2	ENSMUSG00 000005161	peroxiredoxin 2 Source MGI Symbol Acc MGI 109486
F09	SBM0791013	ENSMUST00000 205594.1	Pycard	ENSMUSG00 000030793	PYD and CARD domain containing Source MGI Symbol Acc MGI 1931465
F10	SBM0953041	ENSMUST00000 167374.8	Ripk1	ENSMUSG00 000021408	receptor (TNFRSF)-interacting serine-threonine kinase 1 Source MGI Symbol Acc MGI 108212

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBM0788439	ENSMUST00000025263.14	Tnf	ENSMUSG0000024401	tumor necrosis factor Source MGI Symbol Acc MGI 104798
F12	SBM0809431	ENSMUST00000224533.1	Tnfrsf10b	ENSMUSG0000022074	tumor necrosis factor receptor superfamily, member 10b Source MGI Symbol Acc MGI 1341090
G01	SBM0675830	ENSMUST00000079772.3	Tnfrsf11b	ENSMUSG0000063727	tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin) Source MGI Symbol Acc MGI 109587
G02	SBM0837100	ENSMUST00000134803.1	Tnfrsf1a	ENSMUSG0000030341	tumor necrosis factor receptor superfamily, member 1a Source MGI Symbol Acc MGI 1314884
G03	SBM0969669	ENSMUST00000046383.11	Tnfsf10	ENSMUSG0000039304	tumor necrosis factor (ligand) superfamily, member 10 Source MGI Symbol Acc MGI 107414
G04	SBM0826302	ENSMUST00000181810.7	Tnfsf12	ENSMUSG0000097328	tumor necrosis factor (ligand) superfamily, member 12 Source MGI Symbol Acc MGI 1196259
G05	SBM0741116	ENSMUST00000028234.11	Traf1	ENSMUSG0000026875	TNF receptor-associated factor 1 Source MGI Symbol Acc MGI 101836
G06	SBM0686660	ENSMUST00000151742.1	Traf2	ENSMUSG0000026942	TNF receptor-associated factor 2 Source MGI Symbol Acc MGI 101835
G07	SBM0833897	ENSMUST00000021706.10	Traf3	ENSMUSG0000021277	TNF receptor-associated factor 3 Source MGI Symbol Acc MGI 108041
G08	SBM0841427	ENSMUST00000108657.3	Trp53	ENSMUSG0000059552	transformation related protein 53 Source MGI Symbol Acc MGI 98834
G09	SBM0771773	ENSMUST00000117245.1	Trp53bp2	ENSMUSG0000026510	transformation related protein 53 binding protein 2 Source MGI Symbol Acc MGI 2138319
G10	SBM1225399	ENSMUST00000115306.7	Trp63	ENSMUSG0000022510	transformation related protein 63 Source MGI Symbol Acc MGI 1330810
G11	SBM1225400	ENSMUST00000105643.7	Trp73	ENSMUSG0000029026	transformation related protein 73 Source MGI Symbol Acc MGI 1336991
G12	SBM0766940	ENSMUST00000115095.8	Xiap	ENSMUSG0000025860	X-linked inhibitor of apoptosis Source MGI Symbol Acc MGI 107572
H01	SBM1220560	ENSMUST00000100497.10	Actb	ENSMUSG0000029580	actin, beta Source MGI Symbol Acc MGI 87904
H02	SBM0675336	ENSMUST00000102476.4	B2m	ENSMUSG0000060802	beta-2 microglobulin Source MGI Symbol Acc MGI 88127
H03	SBM1220562	ENSMUST00000117757.8	Gapdh	ENSMUSG0000057666	glyceraldehyde-3-phosphate dehydrogenase Source MGI Symbol Acc MGI 95640
H04	SBM1220563	ENSMUST00000026613.13	Gusb	ENSMUSG0000025534	glucuronidase, beta Source MGI Symbol Acc MGI 95872
H05	SBM1220564	ENSMUST00000166469.7	Hsp90ab1	ENSMUSG0000023944	heat shock protein 90 alpha (cytosolic), class B member 1 Source MGI Symbol Acc MGI 96247
H06	SBM1218554	Sybr_MGDC	MGDC	Sybr_MGDC	Mouse 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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