

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

## Mouse Hypoxia Signaling Pathway

Cat. no. 249950 SBMM-032ZA

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	Adm	Adora2b	Aldoa	Angptl4	Ankrd37	Anxa2	Apex1	Arnt	Atr	Bhlhe40	Blm	Bnip3
B	Bnip3l	Blg1	Car9	Ccng2	Cops5	Ctfa	Ddit4	Dnajc5	Edn1	Egln1	Egln2	Egr1
C	Eif4ebp1	Eno1	Epo	Ero1l	F10	F3	Fos	Gbe1	Gpi1	Gys1	Hif1a	Hif1an
D	Hif3a	Hk2	Hmox1	Hnf4a	Ier3	Igfbp3	Jmjd6	Ldha	Lgals3	Lox	Map3k1	Met
E	Mif	Mmp9	Mxi1	Nampt	Ncoa1	Ndrg1	Nfkb1	Nos3	Odc1	P4ha1	P4hb	Pdk1
F	Per1	Pfkfb3	Pfkfb4	Pki	Pkip	Pgam1	Pgf	Pgk1	Pim1	Pkm	Ploa	Rbpj
G	Ruvbl2	Serpine1	Slc16a3	Slc2a1	Slc2a3	Tfrc	Tpi1	Trp53	Txnip	Usf2	Vdac1	Vegfa
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	SBM0999945	ENSMUST00000185766.1	Adm	ENSMUSG0000030790	adrenomedullin Source MGI Symbol Acc MGI 108058
A02	SBM0710490	ENSMUST0000018644.2	Adora2b	ENSMUSG0000018500	adenosine A2b receptor Source MGI Symbol Acc MGI 99403
A03	SBM1034918	ENSMUST00000106348.7	Aldoa	ENSMUSG0000030695	aldolase A, fructose-bisphosphate Source MGI Symbol Acc MGI 87994
A04	SBM0692606	ENSMUST00000174872.1	Angptl4	ENSMUSG0000002289	angiotensin-like 4 Source MGI Symbol Acc MGI 1888999
A05	SBM1032055	ENSMUST00000053558.9	Ankrd37	ENSMUSG0000050914	ankyrin repeat domain 37 Source MGI Symbol Acc MGI 3603344
A06	SBM0732788	ENSMUST00000136282.2	Anxa2	ENSMUSG0000032231	annexin A2 Source MGI Symbol Acc MGI 88246
A07	SBM0874745	ENSMUST00000128395.1	Apex1	ENSMUSG0000035960	apurinic/aprimidinic endonuclease 1 Source MGI Symbol Acc MGI 88042
A08	SBM0815999	ENSMUST00000140060.1	Arnt	ENSMUSG0000015522	aryl hydrocarbon receptor nuclear translocator Source MGI Symbol Acc MGI 88071
A09	SBM0707457	ENSMUST00000189602.6	Atr	ENSMUSG0000032409	ataxia telangiectasia and Rad3 related Source MGI Symbol Acc MGI 108028
A10	SBM1059378	ENSMUST00000163617.1	Bhlhe40	ENSMUSG0000030103	basic helix-loop-helix family, member e40 Source MGI Symbol Acc MGI 1097714
A11	SBM0777218	ENSMUST00000205584.1	Blm	ENSMUSG0000030528	Bloom syndrome, RecQ like helicase Source MGI Symbol Acc MGI 1328362
A12	SBM0840313	ENSMUST00000130500.7	Bnip3	ENSMUSG0000078566	BCL2/adenovirus E1B interacting protein 3 Source MGI Symbol Acc MGI 109326
B01	SBM0756647	ENSMUST00000129605.1	Bnip3l	ENSMUSG0000022051	BCL2/adenovirus E1B interacting protein 3-like Source MGI Symbol Acc MGI 1332659
B02	SBM1033050	ENSMUST00000218953.1	Bitg1	ENSMUSG0000036478	B cell translocation gene 1, anti-proliferative Source MGI Symbol Acc MGI 88215
B03	SBM0866761	ENSMUST00000124114.7	Car9	ENSMUSG0000028463	carbonic anhydrase 9 Source MGI Symbol Acc MGI 2447188
B04	SBM0934555	ENSMUST00000149329.1	Ccng2	ENSMUSG0000029385	cyclin G2 Source MGI Symbol Acc MGI 1095734
B05	SBM0973564	ENSMUST00000186528.6	Cops5	ENSMUSG0000025917	COP9 signalosome subunit 5 Source MGI Symbol Acc MGI 1349415
B06	SBM0813412	ENSMUST00000128596.7	Ctsa	ENSMUSG0000017760	cathepsin A Source MGI Symbol Acc MGI 97748
B07	SBM1018894	ENSMUST00000020308.4	Ddit4	ENSMUSG0000020108	DNA-damage-inducible transcript 4 Source MGI Symbol Acc MGI 1921997
B08	SBM0892808	ENSMUST00000152578.7	Dnajc5	ENSMUSG0000000826	DnaJ heat shock protein family (Hsp40) member C5 Source MGI Symbol Acc MGI 892995
B09	SBM0992224	ENSMUST00000021796.8	Edn1	ENSMUSG0000021367	endothelin 1 Source MGI Symbol Acc MGI 95283
B10	SBM0919431	ENSMUST00000034469.6	Egl1	ENSMUSG0000031987	egl-9 family hypoxia-inducible factor 1 Source MGI Symbol Acc MGI 1932286
B11	SBM0881369	ENSMUST00000108382.1	Egl2	ENSMUSG0000058709	egl-9 family hypoxia-inducible factor 2 Source MGI Symbol Acc MGI 1932287
B12	SBM0782056	ENSMUST00000064795.5	Egr1	ENSMUSG0000038418	early growth response 1 Source MGI Symbol Acc MGI 95295
C01	SBM1066112	ENSMUST00000033880.6	Eif4ebp1	ENSMUSG0000031490	eukaryotic translation initiation factor 4E binding protein 1 Source MGI Symbol Acc MGI 103267
C02	SBM0855174	ENSMUST00000141931.1	Eno1	ENSMUSG0000063524	enolase 1, alpha non-neuron Source MGI Symbol Acc MGI 95393
C03	SBM0965635	ENSMUST00000111038.7	Epo	ENSMUSG0000029711	erythropoietin Source MGI Symbol Acc MGI 95407
C04	SBM0910633	ENSMUST00000022378.8	Ero1l	ENSMUSG0000021831	ERO1-like (S. cerevisiae) Source MGI Symbol Acc MGI 1354385
C05	SBM1092174	ENSMUST00000152034.1	F10	ENSMUSG0000031444	coagulation factor X Source MGI Symbol Acc MGI 103107
C06	SBM0963811	ENSMUST00000029771.12	F3	ENSMUSG0000028128	coagulation factor III Source MGI Symbol Acc MGI 88381
C07	SBM0977461	ENSMUST00000134311.1	Fos	ENSMUSG0000021250	FBJ osteosarcoma oncogene Source MGI Symbol Acc MGI 95574
C08	SBM1002970	ENSMUST00000164300.1	Gbe1	ENSMUSG0000022707	glucan (1,4-alpha-), branching enzyme 1 Source MGI Symbol Acc MGI 1921435
C09	SBM1045586	ENSMUST00000038027.5	Gpi1	ENSMUSG0000036427	glucose phosphate isomerase 1 Source MGI Symbol Acc MGI 95797
C10	SBM0942563	ENSMUST00000003964.16	Gys1	ENSMUSG0000003865	glycogen synthase 1, muscle Source MGI Symbol Acc MGI 101805
		ENSMUST00000		ENSMUSG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBM1003614	110464.7	Hif1a	000021109	hypoxia inducible factor 1, alpha subunit Source MGI Symbol Acc MGI 106918
C12	SBM0795811	ENSMUST00000131032.1	Hif1an	ENSMUSG0000036450	hypoxia-inducible factor 1, alpha subunit inhibitor Source MGI Symbol Acc MGI 2442345
D01	SBM1067797	ENSMUST00000108492.8	Hif3a	ENSMUSG0000004328	hypoxia inducible factor 3, alpha subunit Source MGI Symbol Acc MGI 1859778
D02	SBM1068583	ENSMUST00000000642.10	Hk2	ENSMUSG0000000628	hexokinase 2 Source MGI Symbol Acc MGI 1315197
D03	SBM0936413	ENSMUST00000005548.7	Hmox1	ENSMUSG0000005413	heme oxygenase 1 Source MGI Symbol Acc MGI 96163
D04	SBM0836445	ENSMUST00000109411.7	Hnf4a	ENSMUSG0000017950	hepatic nuclear factor 4, alpha Source MGI Symbol Acc MGI 109128
D05	SBM1063429	ENSMUST00000003635.6	Ier3	ENSMUSG0000003541	immediate early response 3 Source MGI Symbol Acc MGI 104814
D06	SBM0693110	ENSMUST00000020702.10	Igfbp3	ENSMUSG0000020427	insulin-like growth factor binding protein 3 Source MGI Symbol Acc MGI 96438
D07	SBM0676343	ENSMUST00000047616.9	Jmjd6	ENSMUSG0000056962	jumonji domain containing 6 Source MGI Symbol Acc MGI 1858910
D08	SBM1042883	ENSMUST000000209984.1	Ldha	ENSMUSG00000063229	lactate dehydrogenase A Source MGI Symbol Acc MGI 96759
D09	SBM0732602	ENSMUST00000146468.3	Lgals3	ENSMUSG0000050335	lectin, galactose binding, soluble 3 Source MGI Symbol Acc MGI 96778
D10	SBM0925223	ENSMUST00000025409.8	Lox	ENSMUSG0000024529	lysyl oxidase Source MGI Symbol Acc MGI 96817
D11	SBM0811680	ENSMUST00000145055.1	Map3k1	ENSMUSG0000021754	mitogen-activated protein kinase kinase kinase 1 Source MGI Symbol Acc MGI 1346872
D12	SBM1055926	ENSMUST00000115442.7	Met	ENSMUSG0000009376	met proto-oncogene Source MGI Symbol Acc MGI 96969
E01	SBM0802241	ENSMUST000000218267.1	Mif	ENSMUSG00000033307	macrophage migration inhibitory factor (glycosylation-inhibiting factor) Source MGI Symbol Acc MGI 96982
E02	SBM1089430	ENSMUST00000017881.2	Mmp9	ENSMUSG0000017737	matrix metalloproteinase 9 Source MGI Symbol Acc MGI 97011
E03	SBM0888202	ENSMUST000000235201.1	Mxi1	ENSMUSG0000025025	MAX interactor 1, dimerization protein Source MGI Symbol Acc MGI 97245
E04	SBM0859199	ENSMUST000000218491.1	Nampt	ENSMUSG0000020572	nicotinamide phosphoribosyltransferase Source MGI Symbol Acc MGI 1929865
E05	SBM1041717	ENSMUST000000219373.1	Ncoa1	ENSMUSG0000020647	nuclear receptor coactivator 1 Source MGI Symbol Acc MGI 1276523
E06	SBM0709805	ENSMUST000000172447.7	Ndrp1	ENSMUSG0000005125	N-myc downstream regulated gene 1 Source MGI Symbol Acc MGI 1341799
E07	SBM0841870	ENSMUST000000164430.6	Nfkb1	ENSMUSG0000028163	nuclear factor of kappa light polypeptide gene enhancer in B cells 1, p105 Source MGI Symbol Acc MGI 97312
E08	SBM0681619	ENSMUST000000030834.6	Nos3	ENSMUSG0000028978	nitric oxide synthase 3, endothelial cell Source MGI Symbol Acc MGI 97362
E09	SBM0976238	ENSMUST000000220947.1	Odc1	ENSMUSG0000011179	ornithine decarboxylase, structural 1 Source MGI Symbol Acc MGI 97402
E10	SBM1072765	ENSMUST00000092512.10	P4ha1	ENSMUSG0000019916	procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), alpha 1 polypeptide Source MGI Symbol Acc MGI 97463
E11	SBM1091943	ENSMUST000000168360.1	P4hb	ENSMUSG0000025130	prolyl 4-hydroxylase, beta polypeptide Source MGI Symbol Acc MGI 97464
E12	SBM0889266	ENSMUST000000134362.7	Pdk1	ENSMUSG0000006494	pyruvate dehydrogenase kinase, isoenzyme 1 Source MGI Symbol Acc MGI 1926119
F01	SBM0874801	ENSMUST000000142392.7	Per1	ENSMUSG0000020893	period circadian clock 1 Source MGI Symbol Acc MGI 1098283
F02	SBM1083681	ENSMUST000000114844.7	Pfkfb3	ENSMUSG0000026773	6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 3 Source MGI Symbol Acc MGI 2181202
F03	SBM0678504	ENSMUST000000200229.1	Pfkfb4	ENSMUSG0000025648	6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 Source MGI Symbol Acc MGI 2687284
F04	SBM0896739	ENSMUST000000148818.1	Pfkl	ENSMUSG0000020277	phosphofructokinase, liver, B-type Source MGI Symbol Acc MGI 97547
F05	SBM0999617	ENSMUST000000131648.7	Pfkip	ENSMUSG0000021196	phosphofructokinase, platelet Source MGI Symbol Acc MGI 1891833
F06	SBM1005479	ENSMUST000000237510.1	Pgam1	ENSMUSG0000011752	phosphoglycerate mutase 1 Source MGI Symbol Acc MGI 97552
F07	SBM0900847	ENSMUST000000220985.1	Pgf	ENSMUSG0000004791	placental growth factor Source MGI Symbol Acc MGI 105095
F08	SBM1225374	ENSMUST000000081593.12	Pgk1	ENSMUSG00000062070	phosphoglycerate kinase 1 Source MGI Symbol Acc MGI 97555
F09	SBM0769349	ENSMUST000000234665.1	Pim1	ENSMUSG0000024014	proviral integration site 1 Source MGI Symbol Acc MGI 97584
F10	SBM1088066	ENSMUST000000214571.1	Pkm	ENSMUSG0000032294	pyruvate kinase, muscle Source MGI Symbol Acc MGI 97591

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBM0733272	ENSMUST00000224141.1	Plau	ENSMUSG00000021822	plasminogen activator, urokinase Source MGI Symbol Acc MGI 97611
F12	SBM0925479	ENSMUST00000201912.3	Rbpj	ENSMUSG00000039191	recombination signal binding protein for immunoglobulin kappa J region Source MGI Symbol Acc MGI 96522
G01	SBM1028864	ENSMUST00000211440.1	Ruvbl2	ENSMUSG0000003868	RuvB-like protein 2 Source MGI Symbol Acc MGI 1342299
G02	SBM0809699	ENSMUST0000041388.10	Serpine1	ENSMUSG00000037411	serine (or cysteine) peptidase inhibitor, clade E, member 1 Source MGI Symbol Acc MGI 97608
G03	SBM0881693	ENSMUST00000154187.7	Slc16a3	ENSMUSG0000025161	solute carrier family 16 (monocarboxylic acid transporters), member 3 Source MGI Symbol Acc MGI 1933438
G04	SBM1008931	ENSMUST00000144329.7	Slc2a1	ENSMUSG0000028645	solute carrier family 2 (facilitated glucose transporter), member 1 Source MGI Symbol Acc MGI 95755
G05	SBM1000736	ENSMUST00000168801.1	Slc2a3	ENSMUSG0000003153	solute carrier family 2 (facilitated glucose transporter), member 3 Source MGI Symbol Acc MGI 95757
G06	SBM0876179	ENSMUST0000023486.14	Tfrc	ENSMUSG0000022797	transferrin receptor Source MGI Symbol Acc MGI 98822
G07	SBM0710917	ENSMUST00000154883.3	Tpi1	ENSMUSG0000023456	triosephosphate isomerase 1 Source MGI Symbol Acc MGI 98797
G08	SBM0841427	ENSMUST00000108657.3	Trp53	ENSMUSG0000059552	transformation related protein 53 Source MGI Symbol Acc MGI 98834
G09	SBM1060480	ENSMUST0000049093.7	Txnip	ENSMUSG0000038393	thioredoxin interacting protein Source MGI Symbol Acc MGI 1889549
G10	SBM1084588	ENSMUST00000162228.8	Usf2	ENSMUSG0000058239	upstream transcription factor 2 Source MGI Symbol Acc MGI 99961
G11	SBM1083071	ENSMUST00000102758.7	Vdac1	ENSMUSG0000020402	voltage-dependent anion channel 1 Source MGI Symbol Acc MGI 106919
G12	SBM1079198	ENSMUST00000217017.1	Vegfa	ENSMUSG0000023951	vascular endothelial growth factor A Source MGI Symbol Acc MGI 103178
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	ENSMUST0000026613.13	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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