

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

## Rat TGFb / BMP Signaling Pathway

Cat. no. 249950 SBRN-035ZA

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	Acvr1	Acvr2a	Acvr1	Amh	Amhr2	Atf4	Bambi	Bglap	Bmp1	Bmp2	Bmp3	Bmp4
B	Bmp5	Bmp6	Bmp7	Bmper	Bmpr1a	Bmpr1b	Bmpr2	Cdkn1a	Cdkn1b	Cdkn2b	Chrd	Col1a1
C	Col1a2	Dcn	Dlk2	Emp1	Eng	Fos	Fst	Gadd45b	Gdf3	Gdf5	Gdf6	Gdf7
D	Gsc	Herpud1	Hipk2	Id1	Id2	Ifrd1	Igf1	Igfbp3	Il6	Inha	Inhba	Inhbb
E	Jun	Junb	Ltbp1	Ltbp2	Mecom	Myc	Nodal	Nog	Pdgfb	Plat	Plau	Runx1
F	Serpine1	Smad1	Smad2	Smad3	Smad4	Smad5	Smad6	Smad7	AABR0702757 5.1	Stat1	Tdgf1	Tgfb1
G	Tgfb1l1	Tgfb2	Tgfb3	Tgfb1	Tgfb1	Tgfb2	Tgfb3	Tgfb1	Tgfb1	Thbs1	Tnfrsf10	Tsc22d1
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	QIC	QIC	QIC	PPC	PPC	PPC

## Gene table: QuantiNova LNA PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	SBR1103919	ENSRNOT00000087071.1	Acvr1	ENSRNOG0000005033	activin A receptor type 1 Source RGD Symbol Acc 620200
A02	SBR1119235	ENSRNOT00000007404.7	Acvr2a	ENSRNOG0000005334	activin A receptor type 2A Source RGD Symbol Acc 70911
A03	SBR1184124	ENSRNOT00000081047.1	Acvr1l	ENSRNOG0000028713	activin A receptor like type 1 Source RGD Symbol Acc 2029
A04	SBR1161107	ENSRNOT00000026220.2	Amh	ENSRNOG0000019377	anti-Mullerian hormone Source RGD Symbol Acc 2108
A05	SBR1101926	ENSRNOT00000020103.5	Amhr2	ENSRNOG0000014850	anti-Mullerian hormone receptor type 2 Source RGD Symbol Acc 70964
A06	SBR1186510	ENSRNOT00000065304.4	Atf4	ENSRNOG0000017801	activating transcription factor 4 Source RGD Symbol Acc 621863
A07	SBR1169967	ENSRNOT00000021801.5	Bambi	ENSRNOG0000016066	BMP and activin membrane-bound inhibitor Source RGD Symbol Acc 621831
A08	SBR1199255	ENSRNOT00000026530.3	Bglap	ENSRNOG0000019607	bone gamma-carboxylglutamate protein Source RGD Symbol Acc 2206
A09	SBR1170880	ENSRNOT00000046054.4	Bmp1	ENSRNOG0000010890	bone morphogenetic protein 1 Source RGD Symbol Acc 620739
A10	SBR1127251	ENSRNOT00000028904.4	Bmp2	ENSRNOG0000021276	bone morphogenetic protein 2 Source RGD Symbol Acc 2211
A11	SBR1184728	ENSRNOT00000038872.3	Bmp3	ENSRNOG0000002381	bone morphogenetic protein 3 Source RGD Symbol Acc 2212
A12	SBR1132271	ENSRNOT00000012957.6	Bmp4	ENSRNOG0000009694	bone morphogenetic protein 4 Source RGD Symbol Acc 2213
B01	SBR1175011	ENSRNOT00000014846.5	Bmp5	ENSRNOG0000010917	bone morphogenetic protein 5 Source RGD Symbol Acc 1305979
B02	SBR1213989	ENSRNOT00000018359.7	Bmp6	ENSRNOG0000013717	bone morphogenetic protein 6 Source RGD Symbol Acc 2214
B03	SBR1093977	ENSRNOT00000084990.1	Bmp7	ENSRNOG0000053384	bone morphogenetic protein 7 Source RGD Symbol Acc 620743
B04	SBR1178399	ENSRNOT00000033460.5	Bmper	ENSRNOG0000015357	BMP-binding endothelial regulator Source RGD Symbol Acc 1563373
B05	SBR1158544	ENSRNOT00000079554.1	Bmpr1a	ENSRNOG0000052469	bone morphogenetic protein receptor type 1A Source RGD Symbol Acc 70989
B06	SBR1137612	ENSRNOT00000021963.7	Bmpr1b	ENSRNOG0000016289	bone morphogenetic protein receptor type 1B Source RGD Symbol Acc 1595863
B07	SBR1206505	ENSRNOT00000035238.4	Bmpr2	ENSRNOG0000022196	bone morphogenetic protein receptor type 2 Source RGD Symbol Acc 71082
B08	SBR1145142	ENSRNOT00000091731.1	Cdkn1a	ENSRNOG0000000521	cyclin-dependent kinase inhibitor 1A Source RGD Symbol Acc 69328
B09	SBR1124365	ENSRNOT00000049848.1	Cdkn1b	ENSRNOG0000007249	cyclin-dependent kinase inhibitor 1B Source RGD Symbol Acc 69062
B10	SBR1182649	ENSRNOT00000092196.1	Cdkn2b	ENSRNOG0000006735	cyclin-dependent kinase inhibitor 2B Source RGD Symbol Acc 2324
B11	SBR1174615	ENSRNOT00000002394.7	Chrd	ENSRNOG0000001750	chordin Source RGD Symbol Acc 620181
B12	SBR1113220	ENSRNOT00000005311.6	Col1a1	ENSRNOG0000003897	collagen type I alpha 1 chain Source RGD Symbol Acc 61817
C01	SBR1097834	ENSRNOT00000089292.1	Col1a2	ENSRNOG0000011292	collagen type I alpha 2 chain Source RGD Symbol Acc 621351
C02	SBR1126160	ENSRNOT00000006070.6	Dcn	ENSRNOG0000004554	decorin Source RGD Symbol Acc 61895
C03	SBR1170222	ENSRNOT00000002076.5	Dlx2	ENSRNOG0000001519	distal-less homeobox 2 Source RGD Symbol Acc 1304853
C04	SBR1178747	ENSRNOT00000079785.1	Emp1	ENSRNOG0000008676	epithelial membrane protein 1 Source RGD Symbol Acc 2552
C05	SBR1127868	ENSRNOT00000074562.3	Eng	ENSRNOG0000050190	endoglin Source RGD Symbol Acc 1593188
C06	SBR1110295	ENSRNOT00000010712.3	Fos	ENSRNOG0000008015	Fos proto-oncogene, AP-1 transcription factor subunit Source RGD Symbol Acc 2626
C07	SBR1138330	ENSRNOT00000015680.4	Fst	ENSRNOG0000011631	follicle-stimulating hormone receptor Source RGD Symbol Acc 2633
C08	SBR1101583	ENSRNOT00000026871.4	Gadd45b	ENSRNOG0000019822	growth arrest and DNA-damage-inducible, beta Source RGD Symbol Acc 1309080
C09	SBR1099783	ENSRNOT00000041552.3	Gdf3	ENSRNOG0000015331	growth differentiation factor 3 Source RGD Symbol Acc 1564178
C10	SBR1201122	ENSRNOT00000071099.1	Gdf5	ENSRNOG0000050123	growth differentiation factor 5 Source RGD Symbol Acc 620102
		ENSRNOT000000		ENSRNOG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1157438	010266.5	Gdf6	000007810	growth differentiation factor 6 Source RGD Symbol Acc 620104
C12	SBR1113320	ENSRNOT0000007928.5	Gdf7	ENSRNOG0000006046	growth differentiation factor 7 Source RGD Symbol Acc 620105
D01	SBR1202297	ENSRNOT00000014204.5	Gsc	ENSRNOG0000010605	goosecoid homeobox Source RGD Symbol Acc 631425
D02	SBR1209229	ENSRNOT00000025559.5	Herpud1	ENSRNOG0000018796	homocysteine inducible ER protein with ubiquitin like domain 1 Source RGD Symbol Acc 620818
D03	SBR1100570	ENSRNOT00000064891.2	Hipk2	ENSRNOG0000007034	homeodomain interacting protein kinase 2 Source RGD Symbol Acc 1309349
D04	SBR1135399	ENSRNOT00000029660.5	Id1	ENSRNOG0000021750	inhibitor of DNA binding 1, HLH protein Source RGD Symbol Acc 2858
D05	SBR1195349	ENSRNOT00000009491.6	Id2	ENSRNOG0000007237	inhibitor of DNA binding 2 Source RGD Symbol Acc 2859
D06	SBR1098953	ENSRNOT00000073910.1	Ifrd1	ENSRNOG0000050997	interferon-related developmental regulator 1 Source RGD Symbol Acc 2867
D07	SBR1185495	ENSRNOT00000038780.6	Igf1	ENSRNOG0000004517	insulin-like growth factor 1 Source RGD Symbol Acc 2868
D08	SBR1152057	ENSRNOT00000088355.1	Igfbp3	ENSRNOG00000061910	insulin-like growth factor binding protein 3 Source RGD Symbol Acc 2874
D09	SBR1156877	ENSRNOT00000013732.6	Il6	ENSRNOG0000010278	interleukin 6 Source RGD Symbol Acc 2901
D10	SBR1141256	ENSRNOT00000027227.4	Inha	ENSRNOG0000020097	inhibin subunit alpha Source RGD Symbol Acc 2912
D11	SBR1203713	ENSRNOT00000019272.5	Inhba	ENSRNOG0000014320	inhibin subunit beta A Source RGD Symbol Acc 62074
D12	SBR1205133	ENSRNOT00000086350.1	Inhbb	ENSRNOG0000060237	inhibin subunit beta B Source RGD Symbol Acc 2913
E01	SBR1133226	ENSRNOT00000011731.3	Jun	ENSRNOG0000026293	Jun proto-oncogene, AP-1 transcription factor subunit Source RGD Symbol Acc 2943
E02	SBR1195750	ENSRNOT00000067780.3	Junb	ENSRNOG0000042838	JunB proto-oncogene, AP-1 transcription factor subunit Source RGD Symbol Acc 2944
E03	SBR1138509	ENSRNOT00000047674.4	Libp1	ENSRNOG0000033090	latent transforming growth factor beta binding protein 1 Source RGD Symbol Acc 68379
E04	SBR1205711	ENSRNOT00000031331.4	Libp2	ENSRNOG0000012094	latent transforming growth factor beta binding protein 2 Source RGD Symbol Acc 68380
E05	SBR1133964	ENSRNOT00000068381.3	Mecom	ENSRNOG0000012645	MDS1 and EVI1 complex locus Source RGD Symbol Acc 1310997
E06	SBR1106364	ENSRNOT00000006188.5	Myc	ENSRNOG0000004500	MYC proto-oncogene, bHLH transcription factor Source RGD Symbol Acc 3130
E07	SBR1149225	ENSRNOT00000000672.4	Nodal	ENSRNOG0000000556	nodal growth differentiation factor Source RGD Symbol Acc 1305994
E08	SBR1215922	ENSRNOT00000032388.4	Nog	ENSRNOG0000023683	noggin Source RGD Symbol Acc 3183
E09	SBR1132695	ENSRNOT00000023196.5	Pdgfb	ENSRNOG0000017197	platelet derived growth factor subunit B Source RGD Symbol Acc 3283
E10	SBR1162717	ENSRNOT00000025763.6	Plat	ENSRNOG0000019018	plasminogen activator, tissue type Source RGD Symbol Acc 3342
E11	SBR1186883	ENSRNOT00000014273.5	Plau	ENSRNOG0000010516	plasminogen activator, urokinase Source RGD Symbol Acc 3343
E12	SBR1123632	ENSRNOT00000002313.4	Runx1	ENSRNOG0000001704	runt-related transcription factor 1 Source RGD Symbol Acc 2283
F01	SBR1126485	ENSRNOT00000001916.2	Serpine1	ENSRNOG0000001414	serpin family E member 1 Source RGD Symbol Acc 3249
F02	SBR1104338	ENSRNOT00000025079.6	Smad1	ENSRNOG0000018483	SMAD family member 1 Source RGD Symbol Acc 3030
F03	SBR1164397	ENSRNOT00000046847.4	Smad2	ENSRNOG0000018140	SMAD family member 2 Source RGD Symbol Acc 3031
F04	SBR1096995	ENSRNOT00000039730.4	Smad3	ENSRNOG0000008620	SMAD family member 3 Source RGD Symbol Acc 3032
F05	SBR1183988	ENSRNOT00000090198.1	Smad4	ENSRNOG0000051965	SMAD family member 4 Source RGD Symbol Acc 3033
F06	SBR1104889	ENSRNOT00000016704.4	Smad5	ENSRNOG0000022870	SMAD family member 5 Source RGD Symbol Acc 620158
F07	SBR1208370	ENSRNOT00000012155.7	Smad6	ENSRNOG0000009173	SMAD family member 6 Source RGD Symbol Acc 1305069
F08	SBR1125360	ENSRNOT00000024831.4	Smad7	ENSRNOG0000018359	SMAD family member 7 Source RGD Symbol Acc 69314
F09	SBR1193948	ENSRNOT00000080424.1	AABR07027575.1	ENSRNOG0000058289	
F10	SBR1199428	ENSRNOT00000080522.1	Stat1	ENSRNOG0000014079	signal transducer and activator of transcription 4 Source RGD Symbol Acc 1305747

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1158893	ENSRNOT00000040840.5	Tdgf1	ENSRNOG0000037171	teratocarcinoma-derived growth factor 1 Source RGD Symbol Acc 1594185
F12	SBR1143485	ENSRNOT00000028051.4	Tgfb1	ENSRNOG0000020652	transforming growth factor, beta 1 Source RGD Symbol Acc 69051
G01	SBR1194847	ENSRNOT00000054980.3	Tgfb1i1	ENSRNOG0000019965	transforming growth factor beta 1 induced transcript 1 Source RGD Symbol Acc 620173
G02	SBR1164140	ENSRNOT00000087023.1	Tgfb2	ENSRNOG0000002418	transforming growth factor, beta 2 Source RGD Symbol Acc 70491
G03	SBR1115193	ENSRNOT00000013516.5	Tgfb3	ENSRNOG0000009867	transforming growth factor, beta 3 Source RGD Symbol Acc 3851
G04	SBR1162645	ENSRNOT00000016390.7	Tgfb1	ENSRNOG0000012216	transforming growth factor, beta induced Source RGD Symbol Acc 620017
G05	SBR1139104	ENSRNOT00000081090.1	Tgfbr1	ENSRNOG0000007036	transforming growth factor, beta receptor 1 Source RGD Symbol Acc 3852
G06	SBR1102376	ENSRNOT00000037883.4	Tgfbr2	ENSRNOG0000013265	transforming growth factor, beta receptor 2 Source RGD Symbol Acc 69651
G07	SBR1149356	ENSRNOT00000002867.4	Tgfbr3	ENSRNOG0000002093	transforming growth factor beta receptor 3 Source RGD Symbol Acc 61821
G08	SBR1130150	ENSRNOT00000037094.6	Tgfbrap1	ENSRNOG0000024562	transforming growth factor, beta receptor associated protein 1 Source RGD Symbol Acc 1310772
G09	SBR1164047	ENSRNOT00000021534.6	Tgfi1	ENSRNOG0000015906	TGFB-induced factor homeobox 1 Source RGD Symbol Acc 1310517
G10	SBR1160692	ENSRNOT00000083351.1	Thbs1	ENSRNOG0000045829	thrombospondin 1 Source RGD Symbol Acc 1588455
G11	SBR1107258	ENSRNOT00000017758.5	Tnfsf10	ENSRNOG0000013269	TNF superfamily member 10 Source RGD Symbol Acc 628734
G12	SBR1108181	ENSRNOT00000058206.4	Tsc22d1	ENSRNOG0000001030	TSC22 domain family, member 1 Source RGD Symbol Acc 3850
H01	SBR1220567	ENSRNOT00000042459.4	Actb	ENSRNOG0000034254	actin, beta Source RGD Symbol Acc 628837
H02	SBR1220568	ENSRNOT00000023017.5	B2m	ENSRNOG0000017123	beta-2 microglobulin Source RGD Symbol Acc 2189
H03	SBR1225377	ENSRNOT00000065935.3	Hprt1	ENSRNOG0000048561	hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826
H04	SBR1122313	ENSRNOT00000017468.2	Ldha	ENSRNOG0000013009	lactate dehydrogenase A Source RGD Symbol Acc 2996
H05	SBR1220572	ENSRNOT00000018820.5	Rplp1	ENSRNOG0000013874	ribosomal protein lateral stalk subunit P1 Source RGD Symbol Acc 621774
H06	SBR1218555	Sybr_RGDC	RGDC	Sybr_RGDC	Rat 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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