

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

## Rat Osteogenesis

Cat. no. 249950 SBRN-026ZA

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.

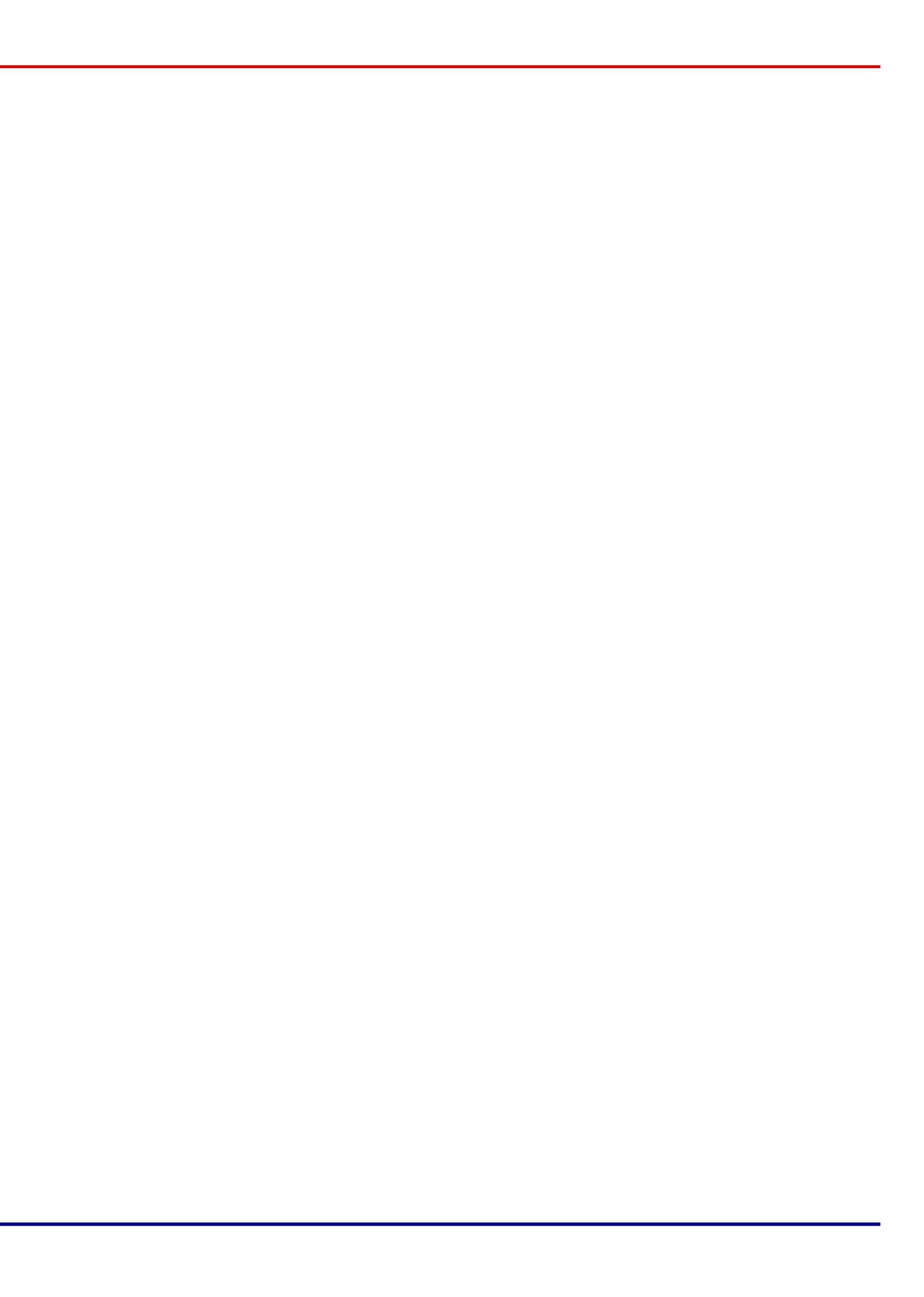
	1	2	3	4	5	6	7	8	9	10	11	12
<b>A</b>	Acrv1	AABR0703463 2.1	Alpl	Anxa5	Bglap	Bgn	Bmp1	Bmp2	Bmp3	Bmp4	Bmp5	Bmp6
<b>B</b>	Bmp7	Bmpr1a	Bmpr1b	Bmpr2	RGD1565355	Cdh11	Chrd	Col10a1	Col14a1	Col1a1	Col1a2	Col2a1
<b>C</b>	Col3a1	Col4a1	Col5a1	Col6a1	Comp	Csf1	Csf2	Csf3	Ctsk	Dlx5	Egf	Fgf1
<b>D</b>	Fgf2	Fgfr1	Fgfr2	Fih1	Fn1	Gdf10	Gli1	Icam1	Igf1	Igf1r	Ilhh	Itga2
<b>E</b>	Itga3	Itgad	Itgav	Itgb1	Mmp10	Mmp2	Mmp8	Mmp9	Nfk1	Nog	Pdgfra	Phex
<b>F</b>	Runx2	Serpinh1	Smad1	Smad2	Smad3	Smad4	Smad5	Sost	Sox9	Sp7	Spp1	Tgfb1
<b>G</b>	Tgfb2	Tgfb3	Tgfb1	Tgfb2	Tgfb3	LOC1036943 80	LOC1036899 74	Twist1	Vcam1	Vdr	Vegfa	Vegfb
<b>H</b>	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	SBR1212144	ENSRNOT00000078203.1	AABR07034632.1	ENSRNOG0000038370	
A03	SBR1097039	ENSRNOT00000019004.5	Alpl	ENSRNOG0000013954	alkaline phosphatase, biomineralization associated Source RGD Symbol Acc 2100
A04	SBR1096992	ENSRNOT00000019554.6	Anxa5	ENSRNOG0000014453	annexin A5 Source RGD Symbol Acc 2120
A05	SBR1199255	ENSRNOT00000026530.3	Bglap	ENSRNOG0000019607	bone gamma-carboxyglutamate protein Source RGD Symbol Acc 2206
A06	SBR1105276	ENSRNOT00000085201.1	Bgn	ENSRNOG0000055962	biglycan Source RGD Symbol Acc 2207
A07	SBR1170880	ENSRNOT00000046054.4	Bmp1	ENSRNOG0000010890	bone morphogenetic protein 1 Source RGD Symbol Acc 620739
A08	SBR1127251	ENSRNOT00000028904.4	Bmp2	ENSRNOG0000021276	bone morphogenetic protein 2 Source RGD Symbol Acc 2211
A09	SBR1184728	ENSRNOT00000038872.3	Bmp3	ENSRNOG0000002381	bone morphogenetic protein 3 Source RGD Symbol Acc 2212
A10	SBR1132271	ENSRNOT00000012957.6	Bmp4	ENSRNOG0000009694	bone morphogenetic protein 4 Source RGD Symbol Acc 2213
A11	SBR1175011	ENSRNOT00000014846.5	Bmp5	ENSRNOG0000010917	bone morphogenetic protein 5 Source RGD Symbol Acc 1305979
A12	SBR1213989	ENSRNOT00000018359.7	Bmp6	ENSRNOG0000013717	bone morphogenetic protein 6 Source RGD Symbol Acc 2214
B01	SBR1093977	ENSRNOT00000084990.1	Bmp7	ENSRNOG0000053384	bone morphogenetic protein 7 Source RGD Symbol Acc 620743
B02	SBR1158544	ENSRNOT00000079554.1	Bmpr1a	ENSRNOG0000052469	bone morphogenetic protein receptor type 1A Source RGD Symbol Acc 70989
B03	SBR1137612	ENSRNOT00000021963.7	Bmpr1b	ENSRNOG0000016289	bone morphogenetic protein receptor type 1B Source RGD Symbol Acc 1595863
B04	SBR1206505	ENSRNOT00000035238.4	Bmpr2	ENSRNOG0000022196	bone morphogenetic protein receptor type 2 Source RGD Symbol Acc 71082
B05	SBR1160418	ENSRNOT00000076573.2	RGD1565355	ENSRNOG0000040108	similar to fatty acid translocase/CD36 Source RGD Symbol Acc 1565355
B06	SBR1180153	ENSRNOT00000018535.5	Cdh11	ENSRNOG0000013481	cadherin 11 Source RGD Symbol Acc 619742
B07	SBR1174615	ENSRNOT00000002394.7	Chrd	ENSRNOG0000001750	chordin Source RGD Symbol Acc 620181
B08	SBR1187688	ENSRNOT00000081117.1	Col10a1	ENSRNOG0000051399	collagen type X alpha 1 chain Source RGD Symbol Acc 2371
B09	SBR1163347	ENSRNOT00000067649.3	Col14a1	ENSRNOG0000026415	collagen type XIV alpha 1 chain Source RGD Symbol Acc 1305806
B10	SBR1113220	ENSRNOT00000005311.6	Col1a1	ENSRNOG0000003897	collagen type I alpha 1 chain Source RGD Symbol Acc 61817
B11	SBR1097834	ENSRNOT00000089292.1	Col1a2	ENSRNOG0000011292	collagen type I alpha 2 chain Source RGD Symbol Acc 621351
B12	SBR1135343	ENSRNOT00000086062.1	Col2a1	ENSRNOG0000058560	collagen type II alpha 1 chain Source RGD Symbol Acc 2375
C01	SBR1150486	ENSRNOT00000004956.4	Col3a1	ENSRNOG0000003357	collagen type III alpha 1 chain Source RGD Symbol Acc 71029
C02	SBR1106782	ENSRNOT00000057386.2	Col4a1	ENSRNOG0000016281	collagen type IV alpha 1 chain Source RGD Symbol Acc 1307148
C03	SBR1207090	ENSRNOT00000086352.1	Col5a1	ENSRNOG0000008749	collagen type V alpha 1 chain Source RGD Symbol Acc 70920
C04	SBR1156528	ENSRNOT00000072951.2	Col6a1	ENSRNOG0000001249	collagen type VI alpha 1 chain Source RGD Symbol Acc 1565398
C05	SBR1197875	ENSRNOT00000083281.2	Comp	ENSRNOG0000048472	cartilage oligomeric matrix protein Source RGD Symbol Acc 2378
C06	SBR1099651	ENSRNOT00000025222.6	Csf1	ENSRNOG0000018659	colony stimulating factor 1 Source RGD Symbol Acc 621063
C07	SBR1136894	ENSRNOT00000032333.3	Csf2	ENSRNOG0000026805	colony stimulating factor 2 Source RGD Symbol Acc 621065
C08	SBR1124341	ENSRNOT00000011509.3	Csf3	ENSRNOG0000008525	colony stimulating factor 3 Source RGD Symbol Acc 2426
C09	SBR1174118	ENSRNOT00000028730.6	Ctsk	ENSRNOG0000021155	cathepsin K Source RGD Symbol Acc 61810
C10	SBR1131884	ENSRNOT00000014946.3	Dlx5	ENSRNOG0000010905	distal-less homeobox 5 Source RGD Symbol Acc 2506
		ENSRNOT000000		ENSRNOG00	

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	SBR1200927	087007.1	Egf	000053979	epidermal growth factor Source RGD Symbol Acc 2542
C12	SBR1111274	ENSRNOT00000 087408.1	Fgf1	ENSRNOG00 000013867	fibroblast growth factor 1 Source RGD Symbol Acc 2605
D01	SBR1185708	ENSRNOT00000 023388.5	Fgf2	ENSRNOG00 000017392	fibroblast growth factor 2 Source RGD Symbol Acc 2609
D02	SBR1139072	ENSRNOT00000 029284.4	Fgfr1	ENSRNOG00 000016050	Fibroblast growth factor receptor 1 Source RGD Symbol Acc 620713
D03	SBR1189435	ENSRNOT00000 022253.6	Fgfr2	ENSRNOG00 000016374	fibroblast growth factor receptor 2 Source RGD Symbol Acc 2611
D04	SBR1197248	ENSRNOT00000 001248.3	Fh1	ENSRNOG00 000000940	FMS-related tyrosine kinase 1 Source RGD Symbol Acc 2621
D05	SBR1178912	ENSRNOT00000 019772.6	Fn1	ENSRNOG00 000014288	fibronectin 1 Source RGD Symbol Acc 2624
D06	SBR1154745	ENSRNOT00000 081183.1	Gdf10	ENSRNOG00 000051993	growth differentiation factor 10 Source RGD Symbol Acc 621512
D07	SBR1126418	ENSRNOT00000 009803.7	Gli1	ENSRNOG00 000025120	GLI family zinc finger 1 Source RGD Symbol Acc 621673
D08	SBR1152534	ENSRNOT00000 028066.5	Icam1	ENSRNOG00 000020679	intercellular adhesion molecule 1 Source RGD Symbol Acc 2857
D09	SBR1185495	ENSRNOT00000 038780.6	Igf1	ENSRNOG00 000004517	insulin-like growth factor 1 Source RGD Symbol Acc 2868
D10	SBR1109208	ENSRNOT00000 019267.6	Igf1r	ENSRNOG00 000014187	insulin-like growth factor 1 receptor Source RGD Symbol Acc 2869
D11	SBR1195762	ENSRNOT00000 024419.4	Ihh	ENSRNOG00 000018059	Indian hedgehog signaling molecule Source RGD Symbol Acc 620021
D12	SBR1203459	ENSRNOT00000 077401.1	Itga2	ENSRNOG00 000058111	integrin subunit alpha 2 Source RGD Symbol Acc 621632
E01	SBR1140121	ENSRNOT00000 035894.7	Itga3	ENSRNOG00 000004276	integrin subunit alpha 3 Source RGD Symbol Acc 1310333
E02	SBR1114389	ENSRNOT00000 086003.1	Itgad	ENSRNOG00 000019728	integrin subunit alpha M Source RGD Symbol Acc 2926
E03	SBR1162857	ENSRNOT00000 006961.7	Itgav	ENSRNOG00 000004912	integrin subunit alpha V Source RGD Symbol Acc 1310613
E04	SBR1105686	ENSRNOT00000 014785.5	Itgb1	ENSRNOG00 000010966	integrin subunit beta 1 Source RGD Symbol Acc 2927
E05	SBR1174575	ENSRNOT00000 013119.4	Mmp10	ENSRNOG00 000032832	matrix metalloproteinase 10 Source RGD Symbol Acc 620192
E06	SBR1120605	ENSRNOT00000 022679.6	Mmp2	ENSRNOG00 000016695	matrix metalloproteinase 2 Source RGD Symbol Acc 621316
E07	SBR1151242	ENSRNOT00000 013936.3	Mmp8	ENSRNOG00 000009907	matrix metalloproteinase 8 Source RGD Symbol Acc 631408
E08	SBR1206750	ENSRNOT00000 023965.3	Mmp9	ENSRNOG00 000017539	matrix metalloproteinase 9 Source RGD Symbol Acc 621320
E09	SBR1111134	ENSRNOT00000 036838.4	Nfkb1	ENSRNOG00 000023258	nuclear factor kappa B subunit 1 Source RGD Symbol Acc 70498
E10	SBR1215922	ENSRNOT00000 032388.4	Nog	ENSRNOG00 000023683	noggin Source RGD Symbol Acc 3183
E11	SBR1210315	ENSRNOT00000 042117.6	Pdgfra	ENSRNOG00 000001312	platelet derived growth factor subunit A Source RGD Symbol Acc 3282
E12	SBR1157168	ENSRNOT00000 010970.7	Phex	ENSRNOG00 000023440	phosphate regulating endopeptidase homolog, X-linked Source RGD Symbol Acc 3323
F01	SBR1103643	ENSRNOT00000 061014.4	Runx2	ENSRNOG00 000020193	runt-related transcription factor 2 Source RGD Symbol Acc 2282
F02	SBR1138731	ENSRNOT00000 022983.6	Serpinh1	ENSRNOG00 000016831	serpin family H member 1 Source RGD Symbol Acc 69302
F03	SBR1104338	ENSRNOT00000 025079.6	Smad1	ENSRNOG00 000018483	SMAD family member 1 Source RGD Symbol Acc 3030
F04	SBR1164397	ENSRNOT00000 046847.4	Smad2	ENSRNOG00 000018140	SMAD family member 2 Source RGD Symbol Acc 3031
F05	SBR1096995	ENSRNOT00000 039730.4	Smad3	ENSRNOG00 000008620	SMAD family member 3 Source RGD Symbol Acc 3032
F06	SBR1183988	ENSRNOT00000 090198.1	Smad4	ENSRNOG00 000051965	SMAD family member 4 Source RGD Symbol Acc 3033
F07	SBR1104889	ENSRNOT00000 016704.4	Smad5	ENSRNOG00 000022870	SMAD family member 5 Source RGD Symbol Acc 620158
F08	SBR1202631	ENSRNOT00000 028238.2	Sost	ENSRNOG00 000020805	sclerostin Source RGD Symbol Acc 69358
F09	SBR1186301	ENSRNOT00000 003511.6	Sox9	ENSRNOG00 000002607	SRY box 9 Source RGD Symbol Acc 620474
F10	SBR1132064	ENSRNOT00000 018828.3	Sp7	ENSRNOG00 000014082	Sp7 transcription factor Source RGD Symbol Acc 631377

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	SBR1210860	ENSRNOT00000075989.1	Spp1	ENSRNOG0000043451	secreted phosphoprotein 1 Source RGD Symbol Acc 3752
F12	SBR1143485	ENSRNOT00000028051.4	Tgfb1	ENSRNOG0000020652	transforming growth factor, beta 1 Source RGD Symbol Acc 69051
G01	SBR1164140	ENSRNOT00000087023.1	Tgfb2	ENSRNOG0000002418	transforming growth factor, beta 2 Source RGD Symbol Acc 70491
G02	SBR1115193	ENSRNOT00000013516.5	Tgfb3	ENSRNOG0000009867	transforming growth factor, beta 3 Source RGD Symbol Acc 3851
G03	SBR1139104	ENSRNOT00000081090.1	Tgfb1r1	ENSRNOG0000007036	transforming growth factor, beta receptor 1 Source RGD Symbol Acc 3852
G04	SBR1102376	ENSRNOT00000037883.4	Tgfb1r2	ENSRNOG0000013265	transforming growth factor, beta receptor 2 Source RGD Symbol Acc 69651
G05	SBR1149356	ENSRNOT00000002867.4	Tgfb1r3	ENSRNOG0000002093	transforming growth factor beta receptor 3 Source RGD Symbol Acc 61821
G06	SBR1187845	ENSRNOT00000079677.1	LOC103694380	ENSRNOG0000055156	tumor necrosis factor-like Source RGD Symbol Acc 9404643
G07	SBR1170442	ENSRNOT00000049056.4	LOC103689974	ENSRNOG0000049547	TNF superfamily member 11 Source RGD Symbol Acc 620784
G08	SBR1200999	ENSRNOT00000014763.6	Twist1	ENSRNOG0000011101	twist family bHLH transcription factor 1 Source RGD Symbol Acc 621455
G09	SBR1189462	ENSRNOT00000077972.1	Vcam1	ENSRNOG0000014333	vascular cell adhesion molecule 1 Source RGD Symbol Acc 3952
G10	SBR1167735	ENSRNOT00000082429.1	Vdr	ENSRNOG0000054420	vitamin D receptor Source RGD Symbol Acc 3959
G11	SBR1108862	ENSRNOT00000044163.4	Vegfa	ENSRNOG0000019598	vascular endothelial growth factor A Source RGD Symbol Acc 619991
G12	SBR1120785	ENSRNOT00000050891.3	Vegfb	ENSRNOG0000021156	vascular endothelial growth factor B Source RGD Symbol Acc 619799
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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