

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

## Rat Neuronal Ion Channels

Cat. no. 249955 UPRN-036ZA

For study focus gene expression analysis

### Shipping and storage

QuantiNova LNA Probe PCR Focus Panels are shipped at room temperature. Immediately upon receipt, they should be stored protected from light 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 Probe PCR Focus Panels should be used together with the QuantiNova Reverse Transcription Kit for cDNA synthesis and the QuantiNova Probe PCR Kit (Mastermix) for PCR.

### Panel layout (96-well): QuantiNova LNA Probe PCR Focus Panel

For the 384-well (4 × 96) PCR panels, genes are present in a staggered format. Refer to the QuantiNova LNA Probe PCR 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	Asic2	Asic1	Asic3	Best1	Cacna1a	Cacna1b	Cacna1c	Cacna1d	Cacna1g	Cacna1i	Cacnb1	Cacnb2
B	Cacnb3	Cacng2	Cacng4	LOC108348101	Clcn3	Clcn7	Hcn1	Hcn2	Kcna1	Kcna2	Kcna5	Kcna6
C	Kcnab1	Kcnab2	Kcnab3	Kcnb1	AC125757.1	Kcnc1	Kcnc2	Kcnd1	Kcnd3	Kcnh1	Kcnh2	Kcnh3
D	Kcnh6	Kcnh7	Kcnj1	Kcnj11	Kcnj12	Kcnj13	Kcnj14	Kcnj15	Kcnj16	Kcnj2	Kcnj3	Kcnj4
E	Kcnj5	Kcnj6	Kcnj9	Kcnk1	Kcnma1	Kcnmb4	Kcnn1	Kcnn2	Kcnn3	Kcnq1	Kcnq2	Kcnq3
F	Kcns1	Ryr3	Scn10a	Scn11a	Scn1a	Scn1b	Scn2a	Scn2b	Scn3a	Scn8a	Scn9a	Slc12a5
G	Trpa1	Trpc1	Trpc3	Trpc6	Trpm1	Trpm2	Trpm6	Trpm8	Trpv1	Trpv2	Trpv3	Trpv4
H	Actb	B2m	Hprt1	Ldha	Rplp1	RGDC	QIC	QIC	QIC	PPC	PPC	PPC

## Gene table: QuantiNova LNA Probe PCR Focus Panel

Position	Assay	Name	Symbol	Ensembl ID	Description
A01	UPFR1083352	ENSRNOT00000086961.1	Asic2	ENSRNOG0000058308	acid sensing ion channel subunit 2 Source RGD Symbol Acc 2017
A02	UPFR1032619	ENSRNOT00000084075.1	Asic1	ENSRNOG0000059765	acid sensing ion channel subunit 1 Source RGD Symbol Acc 71062
A03	UPFR1104646	ENSRNOT00000011300.2	Asic3	ENSRNOG0000008380	acid sensing ion channel subunit 3 Source RGD Symbol Acc 708578
A04	UPFR1024381	ENSRNOT00000007320.5	Best1	ENSRNOG0000020346	bestrophin 1 Source RGD Symbol Acc 1311656
A05	UPFR1030802	ENSRNOT00000083448.1	Cacna1a	ENSRNOG0000052707	calcium voltage-gated channel subunit alpha1 A Source RGD Symbol Acc 2244
A06	UPFR1068111	ENSRNOT00000048945.4	Cacna1b	ENSRNOG0000004560	calcium voltage-gated channel subunit alpha1 B Source RGD Symbol Acc 628852
A07	UPFR1053079	ENSRNOT00000052017.6	Cacna1c	ENSRNOG0000007090	calcium voltage-gated channel subunit alpha1 C Source RGD Symbol Acc 2245
A08	UPFR1078011	ENSRNOT00000048459.4	Cacna1d	ENSRNOG0000013147	calcium voltage-gated channel subunit alpha1 D Source RGD Symbol Acc 70973
A09	UPFR1052667	ENSRNOT00000081307.1	Cacna1g	ENSRNOG0000060528	calcium voltage-gated channel subunit alpha1 G Source RGD Symbol Acc 68942
A10	UPFR1093043	ENSRNOT00000084352.1	Cacna1i	ENSRNOG0000060407	calcium voltage-gated channel subunit alpha1 I Source RGD Symbol Acc 68944
A11	UPFR1067263	ENSRNOT00000082974.1	Cacnb1	ENSRNOG0000004518	calcium voltage-gated channel auxiliary subunit beta 1 Source RGD Symbol Acc 68382
A12	UPFR1107390	ENSRNOT00000066826.3	Cacnb2	ENSRNOG0000018378	calcium voltage-gated channel auxiliary subunit beta 2 Source RGD Symbol Acc 67385
B01	UPFR1039519	ENSRNOT00000081206.1	Cacnb3	ENSRNOG0000054274	calcium voltage-gated channel auxiliary subunit beta 3 Source RGD Symbol Acc 2248
B02	UPFR1114455	ENSRNOT00000008414.5	Cacng2	ENSRNOG0000006226	calcium voltage-gated channel auxiliary subunit gamma 2 Source RGD Symbol Acc 71095
B03	UPFR1068020	ENSRNOT00000004383.3	Cacng4	ENSRNOG0000003262	calcium voltage-gated channel auxiliary subunit gamma 4 Source RGD Symbol Acc 628804
B04	UPFR1041985	ENSRNOT00000073435.2	LOC108348101	ENSRNOG0000050854	chloride channel protein 2 Source RGD Symbol Acc 11384925
B05	UPFR1029610	ENSRNOT00000050549.5	Clcn3	ENSRNOG0000010682	chloride voltage-gated channel 3 Source RGD Symbol Acc 621219
B06	UPFR1082106	ENSRNOT00000023615.3	Clcn7	ENSRNOG0000016976	chloride voltage-gated channel 7 Source RGD Symbol Acc 61836
B07	UPFR1039993	ENSRNOT00000089218.1	Hcn1	ENSRNOG0000055382	hyperpolarization-activated cyclic nucleotide-gated potassium channel 1 Source RGD Symbol Acc 620688
B08	UPFR1079975	ENSRNOT00000011837.6	Hcn2	ENSRNOG0000008831	hyperpolarization activated cyclic nucleotide gated potassium and sodium channel 2 Source RGD Symbol Acc 620689
B09	UPFR1039485	ENSRNOT00000026731.3	Kcna1	ENSRNOG0000019750	potassium voltage-gated channel subfamily A member 1 Source RGD Symbol Acc 2949
B10	UPFR1028167	ENSRNOT00000092365.1	Kcna2	ENSRNOG0000018285	potassium voltage-gated channel subfamily A member 2 Source RGD Symbol Acc 2950
B11	UPFR1117182	ENSRNOT00000026691.2	Kcna5	ENSRNOG0000019719	potassium voltage-gated channel subfamily A member 5 Source RGD Symbol Acc 2953
B12	UPFR1109965	ENSRNOT00000080139.1	Kcna6	ENSRNOG0000052486	potassium voltage-gated channel subfamily A member 6 Source RGD Symbol Acc 62083
C01	UPFR1098447	ENSRNOT00000077973.1	Kcnab1	ENSRNOG0000056697	potassium voltage-gated channel subfamily A member regulatory beta subunit 1 Source RGD Symbol Acc 61827
C02	UPFR1097958	ENSRNOT00000015840.3	Kcnab2	ENSRNOG0000011550	potassium voltage-gated channel subfamily A regulatory beta subunit 2 Source RGD Symbol Acc 61828
C03	UPFR1055100	ENSRNOT00000011523.5	Kcnab3	ENSRNOG0000008480	potassium voltage-gated channel subfamily A regulatory beta subunit 3 Source RGD Symbol Acc 61830
C04	UPFR1027115	ENSRNOT00000074023.2	Kcnb1	ENSRNOG0000046949	potassium voltage-gated channel subfamily B member 1 Source RGD Symbol Acc 2954
C05	UPFR1061127	ENSRNOT00000045460.2	AC125757.1	ENSRNOG0000028991	
C06	UPFR1104585	ENSRNOT00000089488.1	Kcnc1	ENSRNOG0000055401	potassium voltage-gated channel subfamily C member 1 Source RGD Symbol Acc 2955
C07	UPFR1064893	ENSRNOT00000005773.7	Kcnc2	ENSRNOG0000004077	potassium voltage-gated channel subfamily C member 2 Source RGD Symbol Acc 628829
C08	UPFR1102710	ENSRNOT00000011994.3	Kcnd1	ENSRNOG0000039544	potassium voltage-gated channel subfamily D member 1 Source RGD Symbol Acc 621364
C09	UPFR1078256	ENSRNOT00000051835.4	Kcnd3	ENSRNOG0000014686	potassium voltage-gated channel subfamily D member 3 Source RGD Symbol Acc 68394
C10	UPFR1026294	ENSRNOT00000077014.2	Kcni1	ENSRNOG0000003841	potassium voltage-gated channel subfamily H member 1 Source RGD Symbol Acc 68398
		ENSRNOT000000		ENSRNOG00	potassium voltage-gated channel subfamily H member 2 Source RGD Symbol

Position	Assay	Name	Symbol	Ensembl ID	Description
C11	UPFR1078681	013800.4	Kcnh2	000009872	Acc 621414
C12	UPFR1055603	ENSRNOT00000 086611.1	Kcnh3	ENSRNOG00 000057315	potassium voltage-gated channel subfamily H member 3 Source RGD Symbol Acc 71070
D01	UPFR1045460	ENSRNOT00000 092779.1	Kcnh6	ENSRNOG00 000008078	potassium voltage-gated channel subfamily H member 6 Source RGD Symbol Acc 620304
D02	UPFR1074215	ENSRNOT00000 085246.1	Kcnh7	ENSRNOG00 000007528	potassium voltage-gated channel subfamily H member 7 Source RGD Symbol Acc 621112
D03	UPFR1107040	ENSRNOT00000 081525.1	Kcnj1	ENSRNOG00 000059005	potassium voltage-gated channel subfamily J member 1 Source RGD Symbol Acc 2957
D04	UPFR1039708	ENSRNOT00000 028685.3	Kcnj11	ENSRNOG00 000021128	potassium voltage-gated channel subfamily J member 11 Source RGD Symbol Acc 69247
D05	UPFR1098054	ENSRNOT00000 089123.1	Kcnj12	ENSRNOG00 000002303	potassium voltage-gated channel subfamily J member 12 Source RGD Symbol Acc 621660
D06	UPFR1026043	ENSRNOT00000 021507.3	Kcnj13	ENSRNOG00 000016057	potassium voltage-gated channel subfamily J member 13 Source RGD Symbol Acc 621661
D07	UPFR1037156	ENSRNOT00000 028591.6	Kcnj14	ENSRNOG00 000021056	potassium voltage-gated channel subfamily J member 14 Source RGD Symbol Acc 628872
D08	UPFR1023690	ENSRNOT00000 002259.2	Kcnj15	ENSRNOG00 000001656	potassium voltage-gated channel subfamily J member 15 Source RGD Symbol Acc 621662
D09	UPFR1121743	ENSRNOT00000 006238.4	Kcnj16	ENSRNOG00 000004713	potassium voltage-gated channel subfamily J member 16 Source RGD Symbol Acc 61824
D10	UPFR1114586	ENSRNOT00000 006254.3	Kcnj2	ENSRNOG00 000004720	potassium voltage-gated channel subfamily J member 2 Source RGD Symbol Acc 61968
D11	UPFR1072015	ENSRNOT00000 007335.4	Kcnj3	ENSRNOG00 000005369	potassium voltage-gated channel subfamily J member 3 Source RGD Symbol Acc 2958
D12	UPFR1108050	ENSRNOT00000 018564.6	Kcnj4	ENSRNOG00 000013869	potassium voltage-gated channel subfamily J member 4 Source RGD Symbol Acc 621436
E01	UPFR1103121	ENSRNOT00000 041038.5	Kcnj5	ENSRNOG00 000033796	potassium voltage-gated channel subfamily J member 5 Source RGD Symbol Acc 61971
E02	UPFR1047292	ENSRNOT00000 079955.1	Kcnj6	ENSRNOG00 000001658	potassium voltage-gated channel subfamily J member 6 Source RGD Symbol Acc 2959
E03	UPFR1116120	ENSRNOT00000 010113.4	Kcnj9	ENSRNOG00 000007645	potassium voltage-gated channel subfamily J member 9 Source RGD Symbol Acc 621440
E04	UPFR1013713	ENSRNOT00000 027058.5	Kcnk1	ENSRNOG00 000019937	potassium two pore domain channel subfamily K member 1 Source RGD Symbol Acc 621447
E05	UPFR1077691	ENSRNOT00000 091318.1	Kcnma1	ENSRNOG00 000005985	potassium calcium-activated channel subfamily M alpha 1 Source RGD Symbol Acc 620715
E06	UPFR1094338	ENSRNOT00000 085579.1	Kcnmb4	ENSRNOG00 000054458	potassium calcium-activated channel subfamily M regulatory beta subunit 4 Source RGD Symbol Acc 620728
E07	UPFR1071036	ENSRNOT00000 080467.1	Kcnn1	ENSRNOG00 000029264	potassium calcium-activated channel subfamily N member 1 Source RGD Symbol Acc 2962
E08	UPFR1023004	ENSRNOT00000 067262.4	Kcnn2	ENSRNOG00 000016675	potassium calcium-activated channel subfamily N member 2 Source RGD Symbol Acc 2963
E09	UPFR1118476	ENSRNOT00000 028117.5	Kcnn3	ENSRNOG00 000020706	potassium calcium-activated channel subfamily N member 3 Source RGD Symbol Acc 2964
E10	UPFR1110970	ENSRNOT00000 087153.1	Kcnq1	ENSRNOG00 000020532	potassium voltage-gated channel subfamily Q member 1 Source RGD Symbol Acc 621503
E11	UPFR1016811	ENSRNOT00000 049961.4	Kcnq2	ENSRNOG00 000011624	potassium voltage-gated channel subfamily Q member 2 Source RGD Symbol Acc 621504
E12	UPFR1118106	ENSRNOT00000 074573.2	Kcnq3	ENSRNOG00 000005206	potassium voltage-gated channel subfamily Q member 3 Source RGD Symbol Acc 69222
F01	UPFR1051964	ENSRNOT00000 018364.3	Kcns1	ENSRNOG00 000013681	potassium voltage-gated channel, modifier subfamily S, member 1 Source RGD Symbol Acc 621524
F02	UPFR1113192	ENSRNOT00000 049582.6	Ryr3	ENSRNOG00 000006645	ryanodine receptor 3 Source RGD Symbol Acc 68952
F03	UPFR1046092	ENSRNOT00000 046864.4	Scn10a	ENSRNOG00 000032473	sodium voltage-gated channel alpha subunit 10 Source RGD Symbol Acc 3629
F04	UPFR1032503	ENSRNOT00000 034025.3	Scn11a	ENSRNOG00 000032884	sodium voltage-gated channel alpha subunit 11 Source RGD Symbol Acc 3630
F05	UPFR1079138	ENSRNOT00000 091259.1	Scn1a	ENSRNOG00 000053122	sodium voltage-gated channel alpha subunit 1 Source RGD Symbol Acc 69364
F06	UPFR1079846	ENSRNOT00000 092133.1	Scn1b	ENSRNOG00 000021102	sodium voltage-gated channel beta subunit 1 Source RGD Symbol Acc 3631
F07	UPFR1050257	ENSRNOT00000 087242.1	Scn2a	ENSRNOG00 000005018	sodium voltage-gated channel alpha subunit 2 Source RGD Symbol Acc 3632
F08	UPFR1041192	ENSRNOT00000 021819.3	Scn2b	ENSRNOG00 000016221	sodium voltage-gated channel beta subunit 2 Source RGD Symbol Acc 3633
F09	UPFR1056784	ENSRNOT00000 081401.1	Scn3a	ENSRNOG00 000005007	sodium voltage-gated channel alpha subunit 3 Source RGD Symbol Acc 3635
F10	UPFR1073565	ENSRNOT00000 008160.7	Scn8a	ENSRNOG00 000005309	sodium voltage-gated channel alpha subunit 8 Source RGD Symbol Acc 3638

Position	Assay	Name	Symbol	Ensembl ID	Description
F11	UPFR1088490	ENSRNOT00000065126.3	Scn9a	ENSRNOG0000006639	sodium voltage-gated channel alpha subunit 9 Source RGD Symbol Acc 69368
F12	UPFR1023269	ENSRNOT00000024657.7	Slc12a5	ENSRNOG0000018111	solute carrier family 12 member 5 Source RGD Symbol Acc 620811
G01	UPFR1099576	ENSRNOT00000009874.2	Trpa1	ENSRNOG0000007354	transient receptor potential cation channel, subfamily A, member 1 Source RGD Symbol Acc 1303284
G02	UPFR1043163	ENSRNOT00000089833.1	Trpc1	ENSRNOG0000054902	transient receptor potential cation channel, subfamily C, member 1 Source RGD Symbol Acc 619783
G03	UPFR1055322	ENSRNOT00000080207.1	Trpc3	ENSRNOG0000016070	transient receptor potential cation channel, subfamily C, member 3 Source RGD Symbol Acc 61973
G04	UPFR1046982	ENSRNOT00000042553.3	Trpc6	ENSRNOG0000006324	transient receptor potential cation channel, subfamily C, member 6 Source RGD Symbol Acc 619788
G05	UPFR1080330	ENSRNOT00000021262.6	Trpm1	ENSRNOG0000015829	transient receptor potential cation channel, subfamily M, member 1 Source RGD Symbol Acc 1597140
G06	UPFR1076660	ENSRNOT00000001631.5	Trpm2	ENSRNOG0000001216	transient receptor potential cation channel, subfamily M, member 2 Source RGD Symbol Acc 1311889
G07	UPFR1028581	ENSRNOT00000017892.7	Trpm6	ENSRNOG0000013053	transient receptor potential cation channel, subfamily M, member 6 Source RGD Symbol Acc 1309942
G08	UPFR1049185	ENSRNOT00000025879.4	Trpm8	ENSRNOG0000019035	transient receptor potential cation channel, subfamily M, member 8 Source RGD Symbol Acc 620762
G09	UPFR1064996	ENSRNOT00000026493.6	Trpv1	ENSRNOG0000019486	transient receptor potential cation channel, subfamily V, member 1 Source RGD Symbol Acc 628841
G10	UPFR1040180	ENSRNOT00000004248.6	Trpv2	ENSRNOG0000003104	transient receptor potential cation channel, subfamily V, member 2 Source RGD Symbol Acc 3965
G11	UPFR1067438	ENSRNOT00000026596.3	Trpv3	ENSRNOG0000019606	transient receptor potential cation channel, subfamily V, member 3 Source RGD Symbol Acc 1564531
G12	UPFR1047458	ENSRNOT00000001586.2	Trpv4	ENSRNOG0000001195	transient receptor potential cation channel, subfamily V, member 4 Source RGD Symbol Acc 69337
H01	UPFR1132952	ENSRNOT00000080216.1	Actb	ENSRNOG0000034254	actin, beta Source RGD Symbol Acc 628837
H02	UPFR1132953	ENSRNOT00000023017.5	B2m	ENSRNOG0000017123	beta-2 microglobulin Source RGD Symbol Acc 2189
H03	UPFR1132959	ENSRNOT00000065935.3	Hprt1	ENSRNOG0000048561	hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826
H04	UPFR1018740	ENSRNOT00000017468.2	Ldha	ENSRNOG0000013009	lactate dehydrogenase A Source RGD Symbol Acc 2996
H05	UPFR1132958	ENSRNOT00000018820.5	Rplp1	ENSRNOG0000013874	ribosomal protein lateral stalk subunit P1 Source RGD Symbol Acc 621774
H06	UPFR1126610	UPL_RGDC	RGDC	UPL_RGDC	Rat Genomic DNA Contamination
H07	UPFH1126606	UPL_QIC	QIC	UPL_QIC	QuantiNova Internal Control
H08	UPFH1126606	UPL_QIC	QIC	UPL_QIC	QuantiNova Internal Control
H09	UPFH1126606	UPL_QIC	QIC	UPL_QIC	QuantiNova Internal Control
H10	UPFH1126605	UPL_PPC	PPC	UPL_PPC	Positive PCR Control
H11	UPFH1126605	UPL_PPC	PPC	UPL_PPC	Positive PCR Control
H12	UPFH1126605	UPL_PPC	PPC	UPL_PPC	Positive PCR Control



## Related products

Product	Contents	Cat. no.
QuantiNova LNA Probe PCR QC Panel	These panels are designed to assess the quality of RNA samples before characterization using QuantiNova LNA Probe PCR Focus Panels; available in 96-well, 384-well, and Rotor-Disc 100 formats	249945
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 Probe RT-PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml QuantiNova Probe RT-PCR Master Mix, 20 $\mu$ l QuantiNova Probe 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	208352
QuantiNova Probe PCR Kit (100)*	For 100 x 20 $\mu$ l reactions: 1 ml 2x QuantiNova Probe PCR Master Mix, 500 $\mu$ l QuantiNova Yellow Template Dilution Buffer, 250 $\mu$ l QN ROX Reference Dye, 1.9 ml Water	208252

\*Larger kit sizes available.

The QuantiNova LNA Probe 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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