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

# Rat Epigenetic Chromatin Remodeling Factors

## Cat. no. 249955 UPRN-086ZA

## 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** for further details.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Arid1a | Arid1b | Baz1a | Baz1b | Baz2a | Baz2b | Bmi1 | Brd1 | AC098547.1 | Brd3 | Brd4 | Brd7 |
| B | Brd8 | Brdt | Brpf1 | Brpf3 | Brwd1 | Cbx2 | Cbx5 | Cbx6 | Cbx7 | Cbx8 | Cdyl2 | Chd1 |
| C | Chd1l | Chd2 | Chd3 | Chd4 | Chd6 | Chd7 | Chd8 | Ctbp1 | Ctbp2 | Ctcf | Dmap1 | E2f6 |
| D | Eed | Ezh2 | Ing1 | Ing2 | Ing3 | Ing4 | Ing5 | Mbd1 | Mbd2 | Mbd3 | Mbd4 | Mecp2 |
| E | Mta1 | Mta2 | Nab2 | Ncoa6 | Nsd1 | LOC103692167 | Pcgf2 | Pcgf3 | Pcgf6 | Phc1 | Phc2 | Phf1 |
| F | Phf13 | Phf2 | Phf21b | Phf3 | Phf5a | Phf7 | Ring1 | Rnf2 | Sf3b3 | Shprh | Smarca2 | Smarca4 |
| G | Smarca5 | Smarcad1 | Smarcal1 | LOC103694876 | Smarcd1 | Smarcd2 | Smarcd3 | Smarce1 | Spen | Trim27 | Yy1 | Zmynd8 |
| 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 | UPFR1028311 | ENSRNOT00000009173.7 | Arid1a | ENSRNOG00000006137 | AT-rich interaction domain 1A Source RGD Symbol Acc 1310500 |
| A02 | UPFR1046541 | ENSRNOT00000022939.7 | Arid1b | ENSRNOG00000017030 | AT-rich interaction domain 1B Source RGD Symbol Acc 708504 |
| A03 | UPFR1055444 | ENSRNOT00000009080.7 | Baz1a | ENSRNOG00000006828 | bromodomain adjacent to zinc finger domain, 1A Source RGD Symbol Acc 1306199 |
| A04 | UPFR1039814 | ENSRNOT00000001975.7 | Baz1b | ENSRNOG00000001453 | bromodomain adjacent to zinc finger domain, 1B Source RGD Symbol Acc 1597089 |
| A05 | UPFR1074001 | ENSRNOT00000079383.1 | Baz2a | ENSRNOG00000053881 | bromodomain adjacent to zinc finger domain, 2A Source RGD Symbol Acc 1305037 |
| A06 | UPFR1028803 | ENSRNOT00000085885.1 | Baz2b | ENSRNOG00000056984 | bromodomain adjacent to zinc finger domain, 2B Source RGD Symbol Acc 1309801 |
| A07 | UPFR1103597 | ENSRNOT00000064257.2 | Bmi1 | ENSRNOG00000016585 | BMI1 proto-oncogene, polycomb ring finger Source RGD Symbol Acc 1307403 |
| A08 | UPFR1110559 | ENSRNOT00000006034.5 | Brd1 | ENSRNOG00000004538 | bromodomain containing 1 Source RGD Symbol Acc 1311855 |
| A09 | UPFR1057620 | ENSRNOT00000077454.1 | AC098547.1 | ENSRNOG00000045877 | bromodomain-containing protein 2-like Source NCBI gene Acc 100909544 |
| A10 | UPFR1018367 | ENSRNOT00000084491.1 | Brd3 | ENSRNOG00000007681 | bromodomain containing 3 Source RGD Symbol Acc 1308925 |
| A11 | UPFR1100419 | ENSRNOT00000091368.1 | Brd4 | ENSRNOG00000006770 | bromodomain containing 4 Source RGD Symbol Acc 1307282 |
| A12 | UPFR1052852 | ENSRNOT00000064275.2 | Brd7 | ENSRNOG00000014419 | bromodomain containing 7 Source RGD Symbol Acc 1309891 |
| B01 | UPFR1120556 | ENSRNOT00000087968.1 | Brd8 | ENSRNOG00000020340 | bromodomain containing 8 Source RGD Symbol Acc 1307003 |
| B02 | UPFR1120274 | ENSRNOT00000080901.1 | Brdt | ENSRNOG00000002073 | bromodomain, testis-specific Source MGI Symbol Acc MGI 1891374 |
| B03 | UPFR1017396 | ENSRNOT00000011246.5 | Brpf1 | ENSRNOG00000008142 | bromodomain and PHD finger containing, 1 Source RGD Symbol Acc 1584828 |
| B04 | UPFR1016386 | ENSRNOT00000092463.1 | Brpf3 | ENSRNOG00000028641 | bromodomain and PHD finger containing, 3 Source RGD Symbol Acc 1306868 |
| B05 | UPFR1038321 | ENSRNOT00000002231.6 | Brwd1 | ENSRNOG00000001632 | bromodomain and WD repeat domain containing 1 Source RGD Symbol Acc 1309030 |
| B06 | UPFR1081051 | ENSRNOT00000072534.1 | Cbx2 | ENSRNOG00000049215 | chromobox 2 Source RGD Symbol Acc 1588561 |
| B07 | UPFR1013051 | ENSRNOT00000089024.1 | Cbx5 | ENSRNOG00000036841 | chromobox 5 Source RGD Symbol Acc 1306619 |
| B08 | UPFR1112285 | ENSRNOT00000068033.1 | Cbx6 | ENSRNOG00000046955 | chromobox 6 Source RGD Symbol Acc 1307314 |
| B09 | UPFR1120167 | ENSRNOT00000077731.1 | Cbx7 | ENSRNOG00000016875 | chromobox 7 Source RGD Symbol Acc 735027 |
| B10 | UPFR1068548 | ENSRNOT00000073337.1 | Cbx8 | ENSRNOG00000048113 | chromobox 8 Source RGD Symbol Acc 1565375 |
| B11 | UPFR1102353 | ENSRNOT00000068440.3 | Cdyl2 | ENSRNOG00000042888 | chromodomain Y-like 2 Source RGD Symbol Acc 1309548 |
| B12 | UPFR1031358 | ENSRNOT00000083968.1 | Chd1 | ENSRNOG00000014434 | chromodomain helicase DNA binding protein 1 Source RGD Symbol Acc 1306794 |
| C01 | UPFR1021424 | ENSRNOT00000043937.5 | Chd1l | ENSRNOG00000017669 | chromodomain helicase DNA binding protein 1-like Source RGD Symbol Acc 1311935 |
| C02 | UPFR1088823 | ENSRNOT00000055829.3 | Chd2 | ENSRNOG00000012716 | chromodomain helicase DNA binding protein 2 Source RGD Symbol Acc 1310056 |
| C03 | UPFR1021272 | ENSRNOT00000057058.4 | Chd3 | ENSRNOG00000009722 | chromodomain helicase DNA binding protein 3 Source RGD Symbol Acc 1311923 |
| C04 | UPFR1041982 | ENSRNOT00000055970.4 | Chd4 | ENSRNOG00000018309 | chromodomain helicase DNA binding protein 4 Source RGD Symbol Acc 620064 |
| C05 | UPFR1052335 | ENSRNOT00000089958.1 | Chd6 | ENSRNOG00000016744 | chromodomain helicase DNA binding protein 6 Source RGD Symbol Acc 1310465 |
| C06 | UPFR1038173 | ENSRNOT00000008901.7 | Chd7 | ENSRNOG00000006689 | chromodomain helicase DNA binding protein 7 Source RGD Symbol Acc 1311921 |
| C07 | UPFR1050364 | ENSRNOT00000022593.6 | Chd8 | ENSRNOG00000025011 | chromodomain helicase DNA binding protein 8 Source RGD Symbol Acc 620696 |
| C08 | UPFR1099165 | ENSRNOT00000065393.2 | Ctbp1 | ENSRNOG00000005428 | C-terminal binding protein 1 Source RGD Symbol Acc 2441 |
| C09 | UPFR1067935 | ENSRNOT00000023574.6 | Ctbp2 | ENSRNOG00000017326 | C-terminal binding protein 2 Source RGD Symbol Acc 68372 |
| C10 | UPFR1082435 | ENSRNOT00000023853.5 | Ctcf | ENSRNOG00000017674 | CCCTC-binding factor Source RGD Symbol Acc 621344 |
| | | ENSRNOT00000 | | ENSRNOG00 | DNA methyltransferase 1-associated protein 1 Source RGD Symbol Acc |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| C11 | UPFR1086732 | 026336.5 | Dmap1 | 000019407 | 1311295 |
| C12 | UPFR1069531 | ENSRNOT00000060499.4 | E2f6 | ENSRNOG00000004449 | E2F transcription factor 6 Source RGD Symbol Acc 631412 |
| D01 | UPFR1045450 | ENSRNOT00000024082.6 | Eed | ENSRNOG00000017509 | embryonic ectoderm development Source RGD Symbol Acc 1309782 |
| D02 | UPFR1017868 | ENSRNOT00000008149.5 | Ezh2 | ENSRNOG00000006048 | enhancer of zeste 2 polycomb repressive complex 2 subunit Source RGD Symbol Acc 1595860 |
| D03 | UPFR1028569 | ENSRNOT00000019454.7 | Ing1 | ENSRNOG00000014520 | inhibitor of growth family, member 1 Source RGD Symbol Acc 1306330 |
| D04 | UPFR1117387 | ENSRNOT00000018689.5 | Ing2 | ENSRNOG00000013480 | inhibitor of growth family, member 2 Source RGD Symbol Acc 1307347 |
| D05 | UPFR1051547 | ENSRNOT00000007476.5 | Ing3 | ENSRNOG00000005496 | inhibitor of growth family, member 3 Source RGD Symbol Acc 1310556 |
| D06 | UPFR1074548 | ENSRNOT00000024116.6 | Ing4 | ENSRNOG00000023363 | inhibitor of growth family, member 4 Source RGD Symbol Acc 1309407 |
| D07 | UPFR1108223 | ENSRNOT00000065058.3 | Ing5 | ENSRNOG00000018988 | inhibitor of growth family, member 5 Source RGD Symbol Acc 1307908 |
| D08 | UPFR1036358 | ENSRNOT00000032202.4 | Mbd1 | ENSRNOG00000024104 | methyl-CpG binding domain protein 1 Source RGD Symbol Acc 1305980 |
| D09 | UPFR1061597 | ENSRNOT00000016112.7 | Mbd2 | ENSRNOG00000011853 | methyl-CpG binding domain protein 2 Source RGD Symbol Acc 1595452 |
| D10 | UPFR1044642 | ENSRNOT00000049170.5 | Mbd3 | ENSRNOG00000028956 | methyl-CpG binding domain protein 3 Source RGD Symbol Acc 1307389 |
| D11 | UPFR1052576 | ENSRNOT00000014537.7 | Mbd4 | ENSRNOG00000010919 | methyl-CpG binding domain 4 DNA glycosylase Source RGD Symbol Acc 1585874 |
| D12 | UPFR1061981 | ENSRNOT00000085723.1 | Mecp2 | ENSRNOG00000056659 | methyl CpG binding protein 2 Source RGD Symbol Acc 3075 |
| E01 | UPFR1100782 | ENSRNOT00000046456.3 | Mta1 | ENSRNOG00000004711 | metastasis associated 1 Source RGD Symbol Acc 621018 |
| E02 | UPFR1049843 | ENSRNOT00000027141.5 | Mta2 | ENSRNOG00000019913 | metastasis associated 1 family, member 2 Source RGD Symbol Acc 1306743 |
| E03 | UPFR1024113 | ENSRNOT00000057745.3 | Nab2 | ENSRNOG00000008415 | Ngfi-A binding protein 2 Source RGD Symbol Acc 1311712 |
| E04 | UPFR1103463 | ENSRNOT00000024714.7 | Ncoa6 | ENSRNOG00000018288 | nuclear receptor coactivator 6 Source RGD Symbol Acc 620111 |
| E05 | UPFR1121879 | ENSRNOT00000060928.2 | Nsd1 | ENSRNOG00000016680 | nuclear receptor binding SET domain protein 1 Source RGD Symbol Acc 1307748 |
| E06 | UPFR1080858 | ENSRNOT00000011173.6 | LOC102362167 | ENSRNOG00000008360 | polycomb group ring finger 1 Source RGD Symbol Acc 1549782 |
| E07 | UPFR1105432 | ENSRNOT00000017241.5 | Pcgf2 | ENSRNOG00000012705 | polycomb group ring finger 2 Source RGD Symbol Acc 1305097 |
| E08 | UPFR1076613 | ENSRNOT00000000071.4 | Pcgf3 | ENSRNOG00000000062 | polycomb group ring finger 3 Source RGD Symbol Acc 1311479 |
| E09 | UPFR1072047 | ENSRNOT00000027450.4 | Pcgf6 | ENSRNOG00000020250 | polycomb group ring finger 6 Source RGD Symbol Acc 1306904 |
| E10 | UPFR1020259 | ENSRNOT00000020529.5 | Phc1 | ENSRNOG00000015191 | polyhomeotic homolog 1 Source RGD Symbol Acc 1309203 |
| E11 | UPFR1036655 | ENSRNOT00000067912.1 | Phc2 | ENSRNOG00000006004 | polyhomeotic homolog 2 Source RGD Symbol Acc 1307912 |
| E12 | UPFR1052045 | ENSRNOT00000091364.1 | Phf1 | ENSRNOG00000000480 | PHD finger protein 1 Source RGD Symbol Acc 1303205 |
| F01 | UPFR1030452 | ENSRNOT00000012407.5 | Phf13 | ENSRNOG00000009046 | PHD finger protein 13 Source RGD Symbol Acc 1308145 |
| F02 | UPFR1119984 | ENSRNOT00000022669.6 | Phf2 | ENSRNOG00000016816 | PHD finger protein 2 Source RGD Symbol Acc 1305228 |
| F03 | UPFR1071354 | ENSRNOT00000017906.6 | Phf21b | ENSRNOG00000013067 | PHD finger protein 21B Source RGD Symbol Acc 1308739 |
| F04 | UPFR1046838 | ENSRNOT00000015638.5 | Phf3 | ENSRNOG00000011756 | PHD finger protein 3 Source RGD Symbol Acc 1304925 |
| F05 | UPFR1119190 | ENSRNOT00000090984.1 | Phf5a | ENSRNOG00000024170 | PHD finger protein 5A Source RGD Symbol Acc 621555 |
| F06 | UPFR1033949 | ENSRNOT00000044991.4 | Phf7 | ENSRNOG00000018996 | PHD finger protein 7 Source RGD Symbol Acc 1308638 |
| F07 | UPFR1030998 | ENSRNOT00000081085.1 | Ring1 | ENSRNOG00000000467 | ring finger protein 1 Source RGD Symbol Acc 3576 |
| F08 | UPFR1055293 | ENSRNOT00000092053.1 | Rnf2 | ENSRNOG00000002454 | ring finger protein 2 Source RGD Symbol Acc 1305491 |
| F09 | UPFR1105965 | ENSRNOT00000023854.6 | Sf3b3 | ENSRNOG00000017724 | splicing factor 3b, subunit 3 Source RGD Symbol Acc 1311636 |
| F10 | UPFR1092677 | ENSRNOT00000019893.6 | Shprh | ENSRNOG00000014450 | SNF2 histone linker PHD RING helicase Source RGD Symbol Acc 1310342 |
| | | | | | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| F11 | UPFR1107015 | ENSRNOT00000080124.1 | Smarca2 | ENSRNOG00000011931 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2 Source RGD Symbol Acc 1302988 |
| F12 | UPFR1030965 | ENSRNOT00000013165.6 | Smarca4 | ENSRNOG00000009271 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4 Source RGD Symbol Acc 621728 |
| G01 | UPFR1023952 | ENSRNOT00000024568.5 | Smarca5 | ENSRNOG00000018149 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 5 Source RGD Symbol Acc 1308832 |
| G02 | UPFR1077455 | ENSRNOT00000008585.3 | Smarcad1 | ENSRNOG00000006391 | SWI/SNF-related, matrix-associated actin-dependent regulator of chromatin, subfamily a, containing DEAD/H box 1` Source RGD Symbol Acc 1309640 |
| G03 | UPFR1020907 | ENSRNOT00000071856.3 | Smarcal1 | ENSRNOG00000016503 | Swi/SNF related matrix associated, actin dependent regulator of chromatin, subfamily a-like 1 Source RGD Symbol Acc 1306134 |
| G04 | UPFR1042902 | ENSRNOT00000029458.6 | LOC103694876 | ENSRNOG00000028302 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily b, member 1 Source RGD Symbol Acc 1308761 |
| G05 | UPFR1110716 | ENSRNOT00000081195.1 | Smarcd1 | ENSRNOG00000061572 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 1 Source RGD Symbol Acc 1305406 |
| G06 | UPFR1086450 | ENSRNOT00000014508.3 | Smarcd2 | ENSRNOG00000010557 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 2 Source RGD Symbol Acc 69289 |
| G07 | UPFR1100858 | ENSRNOT00000066598.2 | Smarcd3 | ENSRNOG00000010077 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3 Source RGD Symbol Acc 1311869 |
| G08 | UPFR1042718 | ENSRNOT00000080617.1 | Smarce1 | ENSRNOG00000010676 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily e, member 1 Source RGD Symbol Acc 1304726 |
| G09 | UPFR1103041 | ENSRNOT00000067517.3 | Spen | ENSRNOG00000033556 | spen family transcriptional repressor Source RGD Symbol Acc 1589867 |
| G10 | UPFR1016877 | ENSRNOT00000077363.1 | Trim27 | ENSRNOG00000055917 | tripartite motif-containing 27 Source RGD Symbol Acc 1310105 |
| G11 | UPFR1036791 | ENSRNOT00000005743.3 | Yy1 | ENSRNOG00000004339 | YY1 transcription factor Source RGD Symbol Acc 3982 |
| G12 | UPFR1066830 | ENSRNOT00000068328.2 | Zmynd8 | ENSRNOG00000019154 | zinc finger, MYND-type containing 8 Source RGD Symbol Acc 1309544 |
| H01 | UPFR1132952 | ENSRNOT00000080216.1 | Actb | ENSRNOG00000034254 | actin, beta Source RGD Symbol Acc 628837 |
| H02 | UPFR1132953 | ENSRNOT00000023017.5 | B2m | ENSRNOG00000017123 | beta-2 microglobulin Source RGD Symbol Acc 2189 |
| H03 | UPFR1132959 | ENSRNOT00000065935.3 | Hprt1 | ENSRNOG00000048561 | hypoxanthine phosphoribosyltransferase 1 Source RGD Symbol Acc 2826 |
| H04 | UPFR1018740 | ENSRNOT00000017468.2 | Ldha | ENSRNOG00000013009 | lactate dehydrogenase A Source RGD Symbol Acc 2996 |
| H05 | UPFR1132958 | ENSRNOT00000018820.5 | Rplp1 | ENSRNOG00000013874 | 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 µl reactions: 20 µl 8x gDNA Removal Mix, 10 µl Reverse Transcription Enzyme, 40 µl Reverse Transcription Mix (containing RT primers), 20 µl Internal Control RNA, 1.9 ml RNase-Free Water | 205410 |
| QuantiNova Probe RT-PCR Kit (100)* | For 100 x 20 µl reactions: 1 ml QuantiNova Probe RT-PCR Master Mix, 20 µl QuantiNova Probe RT Mix, 20 µl Internal Control RNA, 500 µl Yellow Template Dilution Buffer, 250 µl ROX Reference Dye, 1.9 µl RNase-Free Water | 208352 |
| QuantiNova Probe PCR Kit (100)* | For 100 x 20 µl reactions: 1 ml 2x QuantiNova Probe PCR Master Mix, 500 µl QuantiNova Yellow Template Dilution Buffer, 250 µl 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.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.