# QuantiNova® LNA® PCR Focus Panels (Rotor-Gene® Format)

# Human Adipogenesis

## Cat. no. 249950 SBHS-049ZR

## 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 (Rotor-Gene): QuantiNova LNA PCR Focus Panel

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc® (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance. Refer to the QuantiNova LNA PCR System Handbook at **www.qiagen.com** for further details.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | ACACB | ADIG | ADIPOQ | ADRB2 | AGT | ANGPT2 | AXIN1 | BMP2 | BMP4 | BMP7 | CCND1 | CDK4 |
| B | CDKN1A | CDKN1B | CEBPA | CEBPB | CEBPD | CFD | CREB1 | DDIT3 | DIO2 | DKK1 | DLK1 | E2F1 |
| C | EGR2 | FABP4 | FASN | FGF1 | FGF10 | FGF2 | FOXC2 | FOXO1 | GATA2 | GATA3 | HES1 | INSR |
| D | IRS1 | IRS2 | JUN | KLF15 | KLF2 | KLF3 | KLF4 | LEP | LIPE | LMNA | LPL | LRP5 |
| E | MAPK14 | NCOA2 | NCOR2 | NR0B2 | NR1H3 | NRF1 | PPARA | PPARD | PPARG | PPARGC1A | PPARGC1B | PRDM16 |
| F | RB1 | RETN | RUNX1T1 | RXRA | SFRP1 | SFRP5 | SHH | SIRT1 | SIRT2 | SIRT3 | SLC2A4 | SRC |
| G | SREBF1 | TAZ | TCF7L2 | TSC22D3 | TWIST1 | UCP1 | VDR | WNT1 | WNT10B | WNT3A | WNT5A | WNT5B |
| H | ACTB | B2M | GAPDH | HPRT1 | RPLP0 | HGDC | QIC | QIC | QIC | PPC | PPC | PPC |

# Gene table: QuantiNova LNA PCR Focus Panel

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| A01 | SBH0400080 | ENST00000538526.5 | ACACB | ENSG00000076555 | acetyl-CoA carboxylase beta Source HGNC Symbol Acc HGNC 85 |
| A02 | SBH0037121 | ENST00000470147.5 | ADIG | ENSG00000182035 | adipogenin Source HGNC Symbol Acc HGNC 28606 |
| A03 | SBH1219727 | ENST00000320741.7 | ADIPOQ | ENSG00000181092 | adiponectin, C1Q and collagen domain containing Source HGNC Symbol Acc HGNC 13633 |
| A04 | SBH0519738 | ENST00000305988.5 | ADRB2 | ENSG00000169252 | adrenoceptor beta 2 Source HGNC Symbol Acc HGNC 286 |
| A05 | SBH1219729 | ENST00000366667.5 | AGT | ENSG00000135744 | angiotensinogen Source HGNC Symbol Acc HGNC 333 |
| A06 | SBH1219740 | ENST00000338312.10 | ANGPT2 | ENSG00000091879 | angiopoietin 2 Source HGNC Symbol Acc HGNC 485 |
| A07 | SBH1219777 | ENST00000262320.8 | AXIN1 | ENSG00000103126 | axin 1 Source HGNC Symbol Acc HGNC 903 |
| A08 | SBH1219802 | ENST00000378827.5 | BMP2 | ENSG00000125845 | bone morphogenetic protein 2 Source HGNC Symbol Acc HGNC 1069 |
| A09 | SBH0613995 | ENST00000417573.5 | BMP4 | ENSG00000125378 | bone morphogenetic protein 4 Source HGNC Symbol Acc HGNC 1071 |
| A10 | SBH1219806 | ENST00000450594.6 | BMP7 | ENSG00000101144 | bone morphogenetic protein 7 Source HGNC Symbol Acc HGNC 1074 |
| A11 | SBH0434090 | ENST00000227507.2 | CCND1 | ENSG00000110092 | cyclin D1 Source HGNC Symbol Acc HGNC 1582 |
| A12 | SBH1219873 | ENST00000547281.5 | CDK4 | ENSG00000135446 | cyclin dependent kinase 4 Source HGNC Symbol Acc HGNC 1773 |
| B01 | SBH0608500 | ENST00000244741.9 | CDKN1A | ENSG00000124762 | cyclin dependent kinase inhibitor 1A Source HGNC Symbol Acc HGNC 1784 |
| B02 | SBH1219879 | ENST00000442489.1 | CDKN1B | ENSG00000111276 | cyclin dependent kinase inhibitor 1B Source HGNC Symbol Acc HGNC 1785 |
| B03 | SBH0261466 | ENST00000498907.3 | CEBPA | ENSG00000245848 | CCAAT enhancer binding protein alpha Source HGNC Symbol Acc HGNC 1833 |
| B04 | SBH0569983 | ENST00000303004.4 | CEBPB | ENSG00000172216 | CCAAT enhancer binding protein beta Source HGNC Symbol Acc HGNC 1834 |
| B05 | SBH0227697 | ENST00000408965.3 | CEBPD | ENSG00000221869 | CCAAT enhancer binding protein delta Source HGNC Symbol Acc HGNC 1835 |
| B06 | SBH0314825 | ENST00000592860.2 | CFD | ENSG00000197766 | complement factor D Source HGNC Symbol Acc HGNC 2771 |
| B07 | SBH0077258 | ENST00000353267.8 | CREB1 | ENSG00000118260 | cAMP responsive element binding protein 1 Source HGNC Symbol Acc HGNC 2345 |
| B08 | SBH0602366 | ENST00000346473.7 | DDIT3 | ENSG00000175197 | DNA damage inducible transcript 3 Source HGNC Symbol Acc HGNC 2726 |
| B09 | SBH0471452 | ENST00000557125.1 | DIO2 | ENSG00000211448 | iodothyronine deiodinase 2 Source HGNC Symbol Acc HGNC 2884 |
| B10 | SBH0194476 | ENST00000373970.4 | DKK1 | ENSG00000107984 | dickkopf WNT signaling pathway inhibitor 1 Source HGNC Symbol Acc HGNC 2891 |
| B11 | SBH0520266 | ENST00000650464.1 | DLK1 | ENSG00000185559 | delta like non-canonical Notch ligand 1 Source HGNC Symbol Acc HGNC 2907 |
| B12 | SBH1219965 | ENST00000343380.6 | E2F1 | ENSG00000101412 | E2F transcription factor 1 Source HGNC Symbol Acc HGNC 3113 |
| C01 | SBH0476440 | ENST00000242480.4 | EGR2 | ENSG00000122877 | early growth response 2 Source HGNC Symbol Acc HGNC 3239 |
| C02 | SBH0327090 | ENST00000521734.1 | FABP4 | ENSG00000170323 | fatty acid binding protein 4 Source HGNC Symbol Acc HGNC 3559 |
| C03 | SBH0282662 | ENST00000635197.1 | FASN | ENSG00000169710 | fatty acid synthase Source HGNC Symbol Acc HGNC 3594 |
| C04 | SBH0534985 | ENST00000612258.4 | FGF1 | ENSG00000113578 | fibroblast growth factor 1 Source HGNC Symbol Acc HGNC 3665 |
| C05 | SBH0452984 | ENST00000264664.4 | FGF10 | ENSG00000070193 | fibroblast growth factor 10 Source HGNC Symbol Acc HGNC 3666 |
| C06 | SBH1220000 | ENST00000264498.7 | FGF2 | ENSG00000138685 | fibroblast growth factor 2 Source HGNC Symbol Acc HGNC 3676 |
| C07 | SBH1220006 | ENST00000320354.6 | FOXC2 | ENSG00000176692 | forkhead box C2 Source HGNC Symbol Acc HGNC 3801 |
| C08 | SBH0594989 | ENST00000379561.6 | FOXO1 | ENSG00000150907 | forkhead box O1 Source HGNC Symbol Acc HGNC 3819 |
| C09 | SBH0082748 | ENST00000487848.5 | GATA2 | ENSG00000179348 | GATA binding protein 2 Source HGNC Symbol Acc HGNC 4171 |
| C10 | SBH0349339 | ENST00000346208.4 | GATA3 | ENSG00000107485 | GATA binding protein 3 Source HGNC Symbol Acc HGNC 4172 |
| | | ENST00000232 | | ENSG00000 | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| C11 | SBH1220054 | 424.4 | HES1 | 114315 | hes family bHLH transcription factor 1 Source HGNC Symbol Acc HGNC 5192 |
| C12 | SBH0198962 | ENST00000600492.1 | INSR | ENSG00000171105 | insulin receptor Source HGNC Symbol Acc HGNC 6091 |
| D01 | SBH0130188 | ENST00000305123.5 | IRS1 | ENSG00000169047 | insulin receptor substrate 1 Source HGNC Symbol Acc HGNC 6125 |
| D02 | SBH0069279 | ENST00000375856.5 | IRS2 | ENSG00000185950 | insulin receptor substrate 2 Source HGNC Symbol Acc HGNC 6126 |
| D03 | SBH0613340 | ENST00000371222.3 | JUN | ENSG00000177606 | Jun proto-oncogene, AP-1 transcription factor subunit Source HGNC Symbol Acc HGNC 6204 |
| D04 | SBH0617040 | ENST00000296233.4 | KLF15 | ENSG00000163884 | Kruppel like factor 15 Source HGNC Symbol Acc HGNC 14536 |
| D05 | SBH0267292 | ENST00000592003.1 | KLF2 | ENSG00000127528 | Kruppel like factor 2 Source HGNC Symbol Acc HGNC 6347 |
| D06 | SBH0537375 | ENST00000514033.1 | KLF3 | ENSG00000109787 | Kruppel like factor 3 Source HGNC Symbol Acc HGNC 16516 |
| D07 | SBH0614186 | ENST00000497048.5 | KLF4 | ENSG00000136826 | Kruppel like factor 4 Source HGNC Symbol Acc HGNC 6348 |
| D08 | SBH1220169 | ENST00000308868.5 | LEP | ENSG00000174697 | leptin Source HGNC Symbol Acc HGNC 6553 |
| D09 | SBH0638061 | ENST00000601189.1 | LIPE | ENSG00000079435 | lipase E, hormone sensitive type Source HGNC Symbol Acc HGNC 6621 |
| D10 | SBH0543296 | ENST00000368299.7 | LMNA | ENSG00000160789 | lamin A/C Source HGNC Symbol Acc HGNC 6636 |
| D11 | SBH1220175 | ENST00000311322.10 | LPL | ENSG00000175445 | lipoprotein lipase Source HGNC Symbol Acc HGNC 6677 |
| D12 | SBH1220177 | ENST00000294304.12 | LRP5 | ENSG00000162337 | LDL receptor related protein 5 Source HGNC Symbol Acc HGNC 6697 |
| E01 | SBH0102441 | ENST00000229795.7 | MAPK14 | ENSG00000112062 | mitogen-activated protein kinase 14 Source HGNC Symbol Acc HGNC 6876 |
| E02 | SBH0194409 | ENST00000518363.2 | NCOA2 | ENSG00000140396 | nuclear receptor coactivator 2 Source HGNC Symbol Acc HGNC 7669 |
| E03 | SBH0634597 | ENST00000356219.7 | NCOR2 | ENSG00000196498 | nuclear receptor corepressor 2 Source HGNC Symbol Acc HGNC 7673 |
| E04 | SBH0031318 | ENST00000254227.4 | NR0B2 | ENSG00000131910 | nuclear receptor subfamily 0 group B member 2 Source HGNC Symbol Acc HGNC 7961 |
| E05 | SBH0458854 | ENST00000616973.4 | NR1H3 | ENSG00000025434 | nuclear receptor subfamily 1 group H member 3 Source HGNC Symbol Acc HGNC 7966 |
| E06 | SBH0249320 | ENST00000393230.6 | NRF1 | ENSG00000106459 | nuclear respiratory factor 1 Source HGNC Symbol Acc HGNC 7996 |
| E07 | SBH1220322 | ENST00000407236.5 | PPARA | ENSG00000186951 | peroxisome proliferator activated receptor alpha Source HGNC Symbol Acc HGNC 9232 |
| E08 | SBH1220323 | ENST00000418635.6 | PPARD | ENSG00000112033 | peroxisome proliferator activated receptor delta Source HGNC Symbol Acc HGNC 9235 |
| E09 | SBH0521265 | ENST00000652522.1 | PPARG | ENSG00000132170 | peroxisome proliferator activated receptor gamma Source HGNC Symbol Acc HGNC 9236 |
| E10 | SBH0648879 | ENST00000506055.5 | PPARGC1A | ENSG00000109819 | PPARG coactivator 1 alpha Source HGNC Symbol Acc HGNC 9237 |
| E11 | SBH0295595 | ENST00000309241.10 | PPARGC1B | ENSG00000155846 | PPARG coactivator 1 beta Source HGNC Symbol Acc HGNC 30022 |
| E12 | SBH0266788 | ENST00000378391.6 | PRDM16 | ENSG00000142611 | PR/SET domain 16 Source HGNC Symbol Acc HGNC 14000 |
| F01 | SBH0093533 | ENST00000267163.5 | RB1 | ENSG00000139687 | RB transcriptional corepressor 1 Source HGNC Symbol Acc HGNC 9884 |
| F02 | SBH0623598 | ENST00000629642.1 | RETN | ENSG00000104918 | resistin Source HGNC Symbol Acc HGNC 20389 |
| F03 | SBH0002088 | ENST00000521897.5 | RUNX1T1 | ENSG00000079102 | RUNX1 translocation partner 1 Source HGNC Symbol Acc HGNC 1535 |
| F04 | SBH0565802 | ENST00000356384.4 | RXRA | ENSG00000186350 | retinoid X receptor alpha Source HGNC Symbol Acc HGNC 10477 |
| F05 | SBH1220394 | ENST00000220772.8 | SFRP1 | ENSG00000104332 | secreted frizzled related protein 1 Source HGNC Symbol Acc HGNC 10776 |
| F06 | SBH0594707 | ENST00000266066.4 | SFRP5 | ENSG00000120057 | secreted frizzled related protein 5 Source HGNC Symbol Acc HGNC 10779 |
| F07 | SBH0041689 | ENST00000430104.5 | SHH | ENSG00000164690 | sonic hedgehog signaling molecule Source HGNC Symbol Acc HGNC 10848 |
| F08 | SBH1220398 | ENST00000212015.11 | SIRT1 | ENSG00000096717 | sirtuin 1 Source HGNC Symbol Acc HGNC 14929 |
| F09 | SBH1220399 | ENST00000414941.5 | SIRT2 | ENSG00000068903 | sirtuin 2 Source HGNC Symbol Acc HGNC 10886 |
| F10 | SBH0143349 | ENST00000528702.5 | SIRT3 | ENSG00000142082 | sirtuin 3 Source HGNC Symbol Acc HGNC 14931 |
| | | | | | |

| Position | Assay | Name | Symbol | Ensembl ID | Description |
|---|---|---|---|---|---|
| F11 | SBH0509274 | ENST00000424875.2 | SLC2A4 | ENSG00000181856 | solute carrier family 2 member 4 Source HGNC Symbol Acc HGNC 11009 |
| F12 | SBH0514958 | ENST00000489153.1 | SRC | ENSG00000197122 | SRC proto-oncogene, non-receptor tyrosine kinase Source HGNC Symbol Acc HGNC 11283 |
| G01 | SBH0652491 | ENST00000423161.3 | SREBF1 | ENSG00000072310 | sterol regulatory element binding transcription factor 1 Source HGNC Symbol Acc HGNC 11289 |
| G02 | SBH0087006 | ENST00000617701.5 | TAZ | ENSG00000102125 | tafazzin Source HGNC Symbol Acc HGNC 11577 |
| G03 | SBH0385754 | ENST00000355717.9 | TCF7L2 | ENSG00000148737 | transcription factor 7 like 2 Source HGNC Symbol Acc HGNC 11641 |
| G04 | SBH0621912 | ENST00000315660.8 | TSC22D3 | ENSG00000157514 | TSC22 domain family member 3 Source HGNC Symbol Acc HGNC 3051 |
| G05 | SBH1220496 | ENST00000242261.6 | TWIST1 | ENSG00000122691 | twist family bHLH transcription factor 1 Source HGNC Symbol Acc HGNC 12428 |
| G06 | SBH0666067 | ENST00000262999.4 | UCP1 | ENSG00000109424 | uncoupling protein 1 Source HGNC Symbol Acc HGNC 12517 |
| G07 | SBH0641867 | ENST00000546653.5 | VDR | ENSG00000111424 | vitamin D receptor Source HGNC Symbol Acc HGNC 12679 |
| G08 | SBH0160221 | ENST00000293549.3 | WNT1 | ENSG00000125084 | Wnt family member 1 Source HGNC Symbol Acc HGNC 12774 |
| G09 | SBH0031770 | ENST00000301061.9 | WNT10B | ENSG00000169884 | Wnt family member 10B Source HGNC Symbol Acc HGNC 12775 |
| G10 | SBH1220532 | ENST00000284523.2 | WNT3A | ENSG00000154342 | Wnt family member 3A Source HGNC Symbol Acc HGNC 15983 |
| G11 | SBH0548767 | ENST00000264634.8 | WNT5A | ENSG00000114251 | Wnt family member 5A Source HGNC Symbol Acc HGNC 12784 |
| G12 | SBH1220534 | ENST00000397196.7 | WNT5B | ENSG00000111186 | Wnt family member 5B Source HGNC Symbol Acc HGNC 16265 |
| H01 | SBH1220543 | ENST00000646664.1 | ACTB | ENSG00000075624 | actin beta Source HGNC Symbol Acc HGNC 132 |
| H02 | SBH1220550 | ENST00000558401.6 | B2M | ENSG00000166710 | beta-2-microglobulin Source HGNC Symbol Acc HGNC 914 |
| H03 | SBH1220545 | ENST00000396861.5 | GAPDH | ENSG00000111640 | glyceraldehyde-3-phosphate dehydrogenase Source HGNC Symbol Acc HGNC 4141 |
| H04 | SBH1220546 | ENST00000298556.8 | HPRT1 | ENSG00000165704 | hypoxanthine phosphoribosyltransferase 1 Source HGNC Symbol Acc HGNC 5157 |
| H05 | SBH1220553 | ENST00000546989.5 | RPLP0 | ENSG00000089157 | ribosomal protein lateral stalk subunit P0 Source HGNC Symbol Acc HGNC 10371 |
| H06 | SBH1218553 | Sybr_HGDC | HGDC | Sybr_HGDC | Human 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 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 SYBR Green RT-PCR Kit (100)* | For 100 x 20 µl reactions: 1 ml QuantiNova SYBR Green RT-PCR Master Mix, 20 µl QuantiNova SYBR Green RT Mix, 20 µl Internal Control RNA, 500 µl Yellow Template Dilution Buffer, 250 µl ROX Reference Dye, 1.9 µl RNase-Free Water | 208152 |
| QuantiNova SYBR Green PCR Kit (100)* | For 100 x 20 µl reactions: 1 ml 2x QuantiNova SYBR Green PCR Master Mix, 500 µl QuantiNova Yellow Template Dilution Buffer, 250 µl 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.

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.