Supplementary Table 1. Primer sequences used for quantitative real-time PCR analysis

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| *Fgf23*([fibroblast growth factor 23](https://en.wikipedia.org/wiki/Fibroblast_growth_factor_23)) | Forward ACGGAACACCCCATCAGACTATC |
| Reverse TATCACTACGGAGCCAGCATCC |
| *Pdia5*(protein disulfide isomerase family A Member 5) | Forward ATATGACCGAGCTGTGACGCTGAA |
| Reverse ACATCTTTGGCTCCAGGGTCTTCT |
| *Map2k3*(mitogen activated protein kinase kinase 3) | Forward CCATTCTGCGATTCCCTTAC |
| Reverse GCAATGTCCGTCTTCTTAGT |
| *Prl7b1*(prolactin-7B1) | Forward AACAATGCCTCTGGCCACTGC |
| Reverse AGGCCATTGATGTGCTGAGACAGT |
| *Ndst1*(N-deacetylase and N-sulfotransferase 1) | Forward GATGACCCGGTGGCCCTAAA |
| Reverse TCTGTTCGCAGCAGTTTGCC |
| *Lfng*(LFNG *O*-fucosylpeptide 3-beta-N-acetylglucosaminyltransferase) | Forward TTCATCGCCGTCAAGACCAC |
| Reverse GTGCTTGGCCAAAGCTTCATC |
| *Rrad*(Ras related glycolysis inhibitor and calcium channel regulator) | Forward AGGGACAGCAAAGAGGATAATG |
| Reverse TTGGGCTTAGAGAACAGAGAGG |
| *Prl2b1*(prolactin family 2, subfamily b, member 1) | Forward TGTCATCCTTGCAGTCAAGC |
| Reverse GGCAGCGAATCAGGGTATAA |
| *Orm1*(orosomucoid 1) | Forward GTGTTCAAGCAGGCAGTTCAAA |
| Reverse TCTGTGGTCTGAAACTCCCGA |
| *Smoc1*(SPARC related modular calcium binding 1) | Forward ACCACCGGCCCCAGGTTTCTAAT |
| Reverse CTACCTCGATGGACCACGGCC |
| *GPR41*(G-protein-coupled receptor 41) | Forward TGACGGTGAGCATAGAACGTTT |
| Reverse GCCGGGTTTTGTACCACAGT |
| *GPR43*(G-protein-coupled receptor 43) | Forward CACCGAGAACCAAATCACCT |
| Reverse GAGGGACTCTGCCTCAAGTG |
| *OLFR59*(olfactory receptor 59) | Forward TGGTTTGGCTTCCCCCTACT |
| Reverse AGGTGGACAAAGCCAGATCAA |
| *ACC1* (acetyl-CoA carboxylase 1) | Forward TGAGGAGGACCGCATTTATC |
| Reverse GCATGGAATGGCAGTAAGGT |
| *ACC2* (acetyl-CoA carboxylase 2) | Forward CGCTGCGGTCAAGTGT |
| Reverse CGTTGGCGTAGTTGTTATT |
| *ACL* (ATP citrate lyase) | Forward ACCCAGAGGAAGCCTACATTGC |
| Reverse TTCGCCAGTTCGTTGACACC |
| FAS (fatty acid synthetase) | Forward AGATCCTGGAACGTGAACATGA |
| Reverse GCCGTACTTCACGAATGGGT |
| LPL(lipoprotein lipase) | Forward GTACAGTCTTGGAGCCCATGC |
| Reverse GCCAGTAATTCTATTGACCTTCTTGTT |
| *ATGL* (adipose triglyceride lipase) | Forward TGTGGCCTCATTCCTCCTAC |
| Reverse TCGTGGATGTTGGTGGAGCT |
| *HSL* (hormone sensitive lipase) | Forward GCTGGGCTGTCAAGCACTGT |
| Reverse GTAACTGGGTAGGCTGCCAT |
| *MGL* (monoacylglycerol lipase) | Forward TGACCAACTCTGTCCTCCAT |
| Reverse GCACTGCCCTTCCTCTT |
| GAPDH(glyceraldehyde 3-phosphate dehydrogenase) | Forward TCTTGTGCAGTGCCAGCCTC |
| Reverse GTCACAAGAGAAGGCAGCCCTGG |
| 18S ribosomal RNA | Forward GCGATGCGGCGGCGTTAT |
| Reverse AGACTTTGGTTTCCCGGAAGC |

Supplementary Table 2. Placenta and offspring outcome in HF and CC dams.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  CC |  HF | *P* value |
| Litter number | 13.00±0.86 | 13.17±0.83 | NS |
| Litter gender (M/F) | 1.63±0.42 | 0.85±0.24 | NS |
| Litter size (g) | 2.41±0.23 | 3.34±0.49 | NS |
| Placenta weight (g) | 0.39±0.01 | 0.40±0.02 | NS |

Supplementary Table 3. The 26 upregulated genes in the placenta of the HF group compared with those of the CC group.

|  |  |  |  |
| --- | --- | --- | --- |
| Gene description (Up gene) | Gene name | FPKM | Log2 ratio |
| HF value | CC value | HF/CC |
| spermidine synthase [Source:RGD Symbol;Acc:620796] | Srm | 0.91  | 0.00  | 16.47  |
| glutathione S-transferase mu 3 [Source:RGD Symbol;Acc:11402080] | NEWGENE\_620381 | 0.67  | 0.00  | 16.04  |
| ubiquitin specific peptidase 9, Y-linked [Source:RGD Symbol;Acc:9087771] | Usp9y | 0.43  | 0.00  | 15.39  |
| SPARC/osteonectin, cwcv and kazal like domains proteoglycan 3 [Source:RGD Symbol;Acc:1305672] | Spock3 | 0.36  | 0.00  | 15.14  |
| similar to 40S ribosomal protein S2 [Source:RGD Symbol;Acc:1562399] | RGD1562399 | 46.92  | 4.99  | 3.23  |
| tubulin, alpha 1C [Source:RGD Symbol;Acc:1307226] | Tuba1c | 8.35  | 1.01  | 3.05  |
| breast cancer metastasis-suppressor 1 homolog [Source:RGD Symbol;Acc:11501278] | LOC108348098 | 7.22  | 0.93  | 2.96  |
| similar to heat shock protein 8 [Source:RGD Symbol;Acc:1595502] | LOC680121 | 31.89  | 4.64  | 2.78  |
| hemoglobin subunit epsilon 1 [Source:RGD Symbol;Acc:1305115] | Hbe1 | 114.48  | 16.66  | 2.78  |
| atrophin-1-like [Source:RGD Symbol;Acc:6491795] | LOC100911672 | 2.01  | 0.31  | 2.70  |
| LFNG O-fucosylpeptide 3-beta-N-acetylglucosaminyltransferase [Source:RGD Symbol;Acc:620587] | Lfng | 8.94  | 1.40  | 2.68  |
| serine/threonine-protein kinase PAK 2-like [Source:RGD Symbol;Acc:6497075] | LOC100910732 | 12.06  | 1.99  | 2.60  |
| heterogeneous nuclear ribonucleoprotein H3 [Source:RGD Symbol;Acc:1310019] | Hnrnph3 | 26.81  | 4.67  | 2.52  |
| - | Rn60\_1\_2212.4 | 8860.32  | 1550.23  | 2.51  |
| RRAD, Ras related glycolysis inhibitor and calcium channel regulator [Source:RGD Symbol;Acc:69357] | Rrad | 17.93  | 3.46  | 2.37  |
| heterogeneous nuclear ribonucleoprotein A/B [Source:RGD Symbol;Acc:9343685] | LOC103689931 | 16.92  | 3.46  | 2.29  |
| Prolactin family 2, subfamily b, member 1 [Source:RGD Symbol;Acc:620118] | Prl2b1 | 328.06  | 67.77  | 2.28  |
| similar to heat shock protein 8 [Source:RGD Symbol;Acc:1586445] | LOC688655 | 11.78  | 2.43  | 2.28  |
| orosomucoid 1 [Source:RGD Symbol;Acc:67390] | Orm1 | 93.74  | 20.86  | 2.17  |
| 60S ribosomal protein L13-like [Source:RGD Symbol;Acc:2318188] | LOC100362400 | 39.69  | 9.70  | 2.03  |
| glyceraldehyde-3-phosphate dehydrogenase [Source:RGD Symbol;Acc:11369796] | LOC108351137 | 71.82  | 18.06  | 1.99  |
| high mobility group nucleosome binding domain 5B [Source:RGD Symbol;Acc:1308736] | Hmgn5b | 30.26  | 8.40  | 1.85  |
| hemoglobin subunit beta-2-like [Source:RGD Symbol;Acc:9285450] | LOC103694855 | 700.35  | 195.59  | 1.84  |
| doublesex- and mab-3-related transcription factor C1 [Source:RGD Symbol;Acc:11451771] | LOC108348153 | 50.59  | 14.51  | 1.80  |
| SPARC related modular calcium binding 1 [Source:RGD Symbol;Acc:1303126] | Smoc1 | 30.65  | 9.94  | 1.62  |
| thymosin, beta 10-like [Source:RGD Symbol;Acc:2321025] | LOC100364435 | 610.22  | 200.90  | 1.60  |

Supplementary Table 4. The 27 downregulated genes in the placenta of the HF group compared with those of the CC group.

|  |  |  |  |
| --- | --- | --- | --- |
| Gene description (Down gene) | Gene name | FPKM | Log2 ratio |
| HF value | CC value | HF/CC |
| N-deacetylase and N-sulfotransferase 1 [Source:RGD Symbol;Acc:69303] | Ndst1 | 8.93  | 25.95  | -1.54  |
| ribosomal protein L30 [Source:RGD Symbol;Acc:621201] | Rpl30 | 46.11  | 162.37  | -1.82  |
| tubulin, alpha 8 [Source:RGD Symbol;Acc:1566041] | Tuba8 | 16.59  | 66.14  | -2.00  |
| solute carrier family 6 member 9 [Source:RGD Symbol;Acc:621243] | Slc6a9 | 10.42  | 42.29  | -2.02  |
| calcium binding and coiled coil domain 1 [Source:RGD Symbol;Acc:619812] | Calcoco1 | 2.83  | 11.71  | -2.05  |
| apolipoprotein A1 [Source:RGD Symbol;Acc:2130] | Apoa1 | 22.37  | 93.34  | -2.06  |
| prolactin family 7, subfamily b, member 1 [Source:RGD Symbol;Acc:708582] | Prl7b1 | 18.41  | 88.35  | -2.26  |
| WW domain-binding protein 11-like 1 [Source:RGD Symbol;Acc:9435381] | Wbp11l1 | 1.10  | 5.27  | -2.27  |
| apolipoprotein B [Source:RGD Symbol;Acc:2129] | Apob | 0.74  | 3.62  | -2.30  |
| stress-70 protein, mitochondrial-like [Source:RGD Symbol;Acc:6486342] | LOC100912578 | 3.64  | 20.11  | -2.47  |
| alpha-fetoprotein [Source:RGD Symbol;Acc:2065] | Afp | 38.68  | 238.46  | -2.62  |
| paraneoplastic Ma antigen family member 5 [Source:RGD Symbol;Acc:1565857] | Pnma5 | 3.45  | 26.35  | -2.93  |
| mitogen activated protein kinase kinase 3 [Source:RGD Symbol;Acc:1306620] | Map2k3 | 0.99  | 8.26  | -3.06  |
| protein disulfide isomerase family A, member 5 [Source:RGD Symbol;Acc:1359236] | Pdia5 | 4.39  | 37.07  | -3.08  |
| serine/threonine-protein phosphatase 2A catalytic subunit alpha-like [Source:RGD Symbol;Acc:2318135] | LOC100362453 | 1.47  | 18.13  | -3.63  |
| mitochondrial fission factor [Source:RGD Symbol;Acc:1310230] | Mff | 0.75  | 9.57  | -3.66  |
| protein TFG-like [Source:RGD Symbol;Acc:9131838] | LOC103690095 | 0.53  | 7.32  | -3.78  |
| patatin-like phospholipase domain containing 2 [Source:RGD Symbol;Acc:1309044] | Pnpla2 | 0.75  | 10.68  | -3.84  |
| rhox homeobox family member 2-like [Source:RGD Symbol;Acc:11409898] | LOC108348152 | 2.48  | 36.83  | -3.89  |
| carboxypeptidase B2 [Source:RGD Symbol;Acc:71035] | Cpb2 | 0.00  | 0.44  | -15.42  |
| - | AABR07042903.2 | 0.00  | 0.47  | -15.52  |
| transgelin 3 [Source:RGD Symbol;Acc:69301] | Tagln3 | 0.00  | 0.51  | -15.64  |
| fibroblast growth factor 23 [Source:RGD Symbol;Acc:620178] | Fgf23 | 0.00  | 0.59  | -15.84  |
| fucose mutarotase-like [Source:RGD Symbol;Acc:6494411] | LOC100911225 | 0.00  | 0.76  | -16.22  |
| - | Rn50\_1\_0101.1 | 0.00  | 0.82  | -16.32  |
| ELOVL fatty acid elongase 6 [Source:RGD Symbol;Acc:620585] | Elovl6 | 0.00  | 1.03  | -16.65  |
| - | AABR07066510.1 | 0.00  | 3.15  | -18.26  |