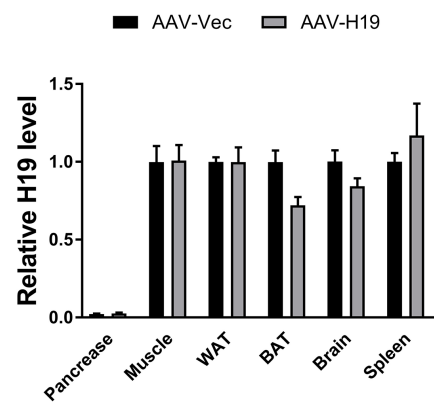


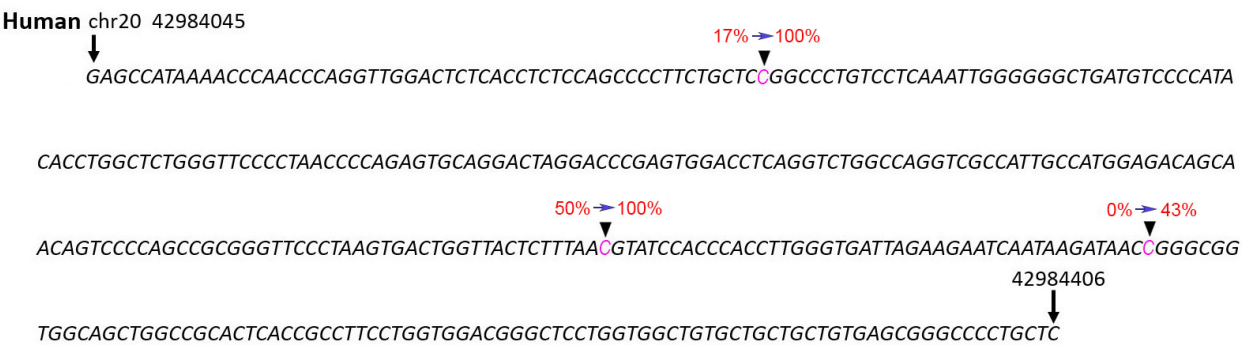
Supplementary Figures and Tables

Elevated hepatic expression of H19 long noncoding RNA contributes to diabetic hyperglycemia

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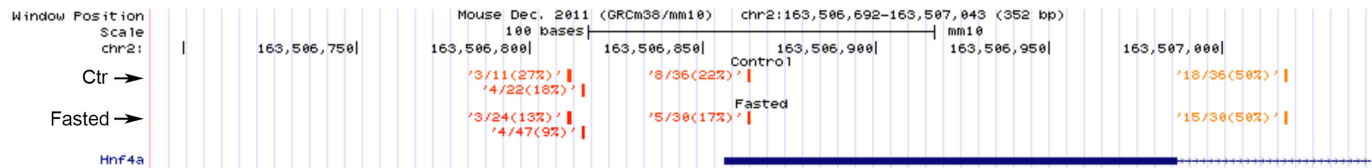


Supplementary Figure 1. H19 expression in indicated tissues using RT-qPCR following injection of AAV-Vec or AAV-H19. H19 levels in AAV-Vec injected mice were arbitrarily set as 1. Results show no significant difference in H19 expression between AAV-Vec and AAV-H19 injected groups. WAT, white adipose tissue; BAT, brown adipose tissue.

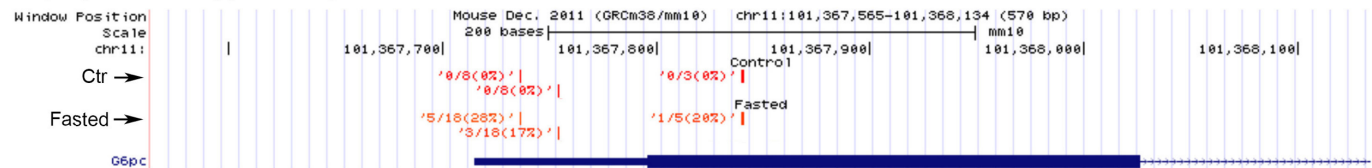


Supplementary Figure 2. Sequence of the conserved promoter region of human *HNF4A*. Three differentially methylated cytosine residues in response to H19 downregulation in human endometrial cancer cells are marked in red. The numbers in black label the positions of the indicated nucleotides in the chromosome. The numbers in red depict percentage methylation with control and H19 knockdown groups marked on the left and the right, respectively. The percentage methylation was based on our previously published genome-wide single nucleotide resolution DNA methylation data using next-generation bisulfite sequencing platforms.

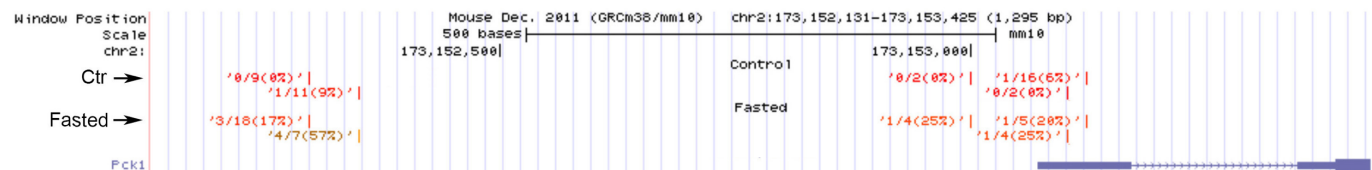
A Hnf4a promoter hypomethylation



B G6pc promoter hypermethylation

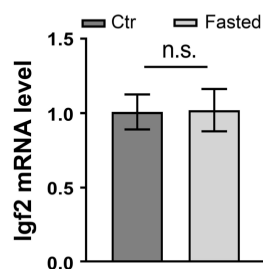


C Pck1 promoter hypermethylation

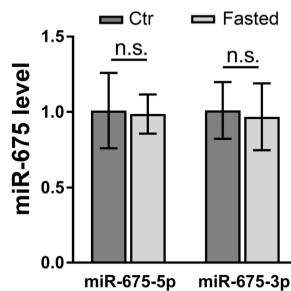


Supplementary Figure 3. Screen shots of methylation in promoter regions of *Hnf4a* (A), *G6pc* (B) and *Pck1* (C) from genome-wide DNA methylation profiling of fed (Ctr) and fasted mouse livers. The QMSP primers for mouse *Hnf4a* were designed based on the first three differentially methylated cytosine residues on the left.

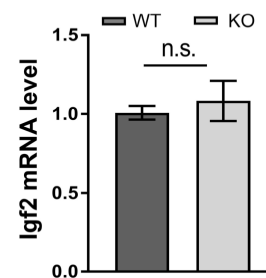
A Igf2 mRNA, WT mice



B miR-675, WT mice



C Igf2 mRNA, WT/KO mice



Supplementary Figure 4. Hepatic expressions of Igf2 and miR-675. RNAs were extracted from control or fasted WT mouse livers (A, B), or from WT or H19 KO livers (C). Expressions of Igf2 and miR-675 were assessed by RT-qPCR. n=5 animals in each group. Numbers are mean $\pm$ SEM. n.s., not statistically significant.

Supplementary Table 1**Real-time PCR primer sequences**

Gene	Forward Primer	Reverse Primer
Mouse H19	5'-CCTCAAGATGAAAGAAATGGTGCTA-3'	5'-TCAGAACGAGACGGACTTAAAGAA-3'
Mouse Hnf4a	5'-TCTTCTTTGATCCAGATGCC-3'	5'-GGTCGTTGATGTAATCCTCC-3'
Mouse G6pc	5'-ATCCGGGGCATCTACAATG-3'	5'-TGGCAAAGGGTGTAGTGTCA-3'
Mouse Pck1	5'-TGTTTACTGGGAAGGCATCG-3'	5'-AGGTCTACGGCCACCAAAG-3'
Mouse Hp1t1	5'-CAGTCCCAGCGTCGTGATTA-3'	5'-GGCCTCCCATCTCCTTCATG-3'
Mouse Rplp0	5'-GATGGGCAACTGTACCTGACTG-3'	5'-CTGGGCTCCTCTTGAATG-3'
Mouse Igf2	5'-GCTTGTTGACACGCTTCAGTTTG-3'	5'-GTTGGCACGGCTTGAAGGC-3'
Human H19	5'-ACTCAGGAATCGGCTCTGGAA-3'	5'-CTGCTGTTCCGATGGTGTCTT-3'
Human Hnf4a	5'-CAGAATGAGCGGGACCGGATC-3'	5'-CAGCAGCTGCTCCTTCATGGAC-3'
Human G6pc	5'-CCTCAGGAATGCCTTCTACG-3'	5'-TCTCCAATCACAGCTACCCA-3'
Human Pck1	5'-GGTCCCAGGGTGCATGAAA-3'	5'-CACGTAGGGTGAATCCGTGAG-3'
Human Hp1t1	5'-GACCAGTCAACAGGGGACAT-3'	5'-CCTGACCAAGGAAAGCAAAG-3'
Human Rplp0	5'-GGCGACCTGGAAGTCCAAC-3'	5'-CCATCAGCACCACAGCCTTC-3'
Human Igf2	5'-CCGAAACAGGCTACTCTCCT-3'	5'-AGGGTGTAAAGCCAATCG-3'
Mouse Gapdh	5'-CCTTCATTGACCTCAACTACAT-3'	5'-CAAAGTTGTCATGGATGACC-3'

QMSP primer sequences

Gene	Forward Primer	Reverse Primer
Human Hnf4a methylated	5'- TTTAATTTTAGAGTGTAGGATTAGGATTCG-3'	5'-TCTTCTAATCACCCAAAATAAATAAATACG-3'
Human Hnf4a unmethylated	5'- TTTAATTTTAGAGTGTAGGATTAGGATTTG-3'	5'- TTCTTCTAATCACCCAAAATAAATAAATACA-3'
Mouse Hnf4a methylated	5'-GATTAGAAGAATTAATAAGATAATCGGGC-3'	5'-AAACAAAAACCCACACACAACAAC-3'
Mouse Hnf4a unmethylated	5'-GTGATTAGAAGAATTAATAAGATAATTGGGTG-3'	5'-AAACAAAAACCCACACACAACA-3'