|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group | Maternal age, year | Gestational week | Fetal gender, no. (%) | Concentration of glucose in maternal plasma, mmol/L |
|  |  |  | Male | Female |  |
| Control (n=100) | 26.71±5.53 | 18.72±0.34 | 37 (37) | 63 (63) | 4.57±0.23 |
| NTDs (n=100) | 25.55±5.56 | 23.04±0.71 | 38 (38) | 62 (62) | 5.53±0.37 |
| *P*-value | 0.143 | ＜0.001\*\*\* | / | / | 0.047\* |

Table S1. Baseline characteristics in two human groups of the study.

Table S2. Clinical characteristics of the six individual fetuses.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Samples | Maternal age, year | Gestational week | Fetal gender | Concentration of glucose in maternal plasma, mmol/L |
| Control-1 | 23 | 21 | F | 4.07 |
| Control-1 | 23 | 23 | F | 4.34 |
| Control-1 | 20 | 16 | M | 4.67 |
| NTD-1 | 21 | 18 | M | 8.24 |
| NTD-1 | 27 | 31 | M | 11.9 |
| NTD-1 | 29 | 34 | M | 12.01 |
| *P*-value | 0.232 | 0.223 | / | 0.007\*\* |

Table S3. Summary of the established mice model.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Gestational age | group | Maternal weight (g) | Maternal plasma glucose, mmol/L  | Number of embryos per maternal mice |
| E8.5 | Control | 22.23±0.23 | 9.85±0.60 | 10.91±0.35 |
| DM | 24.82±0.30\*\* | 16.96±1.77\* | 7.91±0.69\* |
| DM+HCA | 20.80±0.14## | 18.37±3.25\* | 6.67±0.72 |
| E14.5 | Control | 21.54±0.41 | 9.44±0.93 | 8.50±0.50 |
| DM | 23.94±0.39\* | 23.02±0.95\*\* | 7.14±0.58 |
| DM-NTDs | 24.31±0.38# | 24.26±0.90\*\* | 7.43±0.80 |

DM: Diabete mellitus; HCA: hydroxycitric acid; \*: p＜0.05 (compared to Control); \*\*: p＜0.001 (compared to Control); #: p＜0.05 (compared to DM); ##: p＜0.001 (compared to DM)

Table S4. Primers for ChIP-qPCR

|  |  |  |  |
| --- | --- | --- | --- |
| Genes | Primer (5'→3')  | Target region  | Product size (bp) |
| *Gadd45g-region1* | F: GCGCATAATAGCACAGGGTT  | chr13:51845543-51845645 | 103 |
| R: CCAGATCCTCTCATCCACCC |  |
| *Gadd45g-region2* | F: AAGTTGGAAGGCACCGTCTA  | chr13:51849075-51849200 | 126 |
| R: GGAATTGTGGAGAGCAGCAG |  |
| *Ddit3-region1* | F: GGAGAGATTTCAAAGAGGCTTCC  | chr10:127292635-127292797 | 163 |
| R: AACTCACTGTGGACAAGGCT |  |

Table S5. Primers for RT-qPCR

|  |  |  |  |
| --- | --- | --- | --- |
| Genes | Primer (5'→3')  | RefSeq accession | Product size (bp) |
| *Gadd45g* | F: GTTTGTTCTGCGAGGAGAGC | NM\_011817.2 | 247 |
| R: CTCGGAACAAGGTGTCCCC |  |
| *Ddit3* | F: CTGCACCAAGCATGAACAGT | NM\_001290183.1 | 131 |
| R: CTACCCTCAGTCCCCTCCTC  |  |
| *Gapdh* | F: CAAGTTCAACGGCACAGTCA  | NM\_017008.4 | 102 |
|  | R: AACTCACTGTGGACAAGGCT |  |

F: foword primer; R: reverse primer; Gapdh was used as reference genes.