**Supporting Information**

Supplementary file 1:

1. Primers used in the study

|  |  |  |  |
| --- | --- | --- | --- |
| **Target** | **forward primer((5' -3')** | **reverse primer(5’-3’)** | **GenBank\_ID** |
| GAPDH | GTGTTCCTACCCCCAATGTGT | ATTGTCATACCAGGAAATGAGCTT | NM\_008084 |
| CD11c | CTGGATAGCCTTTCTTCTGCTG | GCACACTGTGTCCGAACTC | NM\_021334 |
| TNF-alpha | ACGGCATGGATCTCAAAGAC | AGATAGCAAATCGGCTGACG | NM\_013693 |
| IL10 | TGGCCCAGAAATCAAGGAGC | CAGCAGACTCAATACACACT | NM\_010548 |
|  |  |  |  |

2. Temporal changes in the body weight of the mice fed a low-fat diet and a high-fat and high-sucrose diet during the first 60 days of the experiment. \*\* *P* <0.01 based on a modified *t*-test between the two diets.

S2 a.tif

3. Food intake during the final 30 days of the 90-day experiment.

Feed intake_Supp.tif

4. Dietary composition

|  |  |  |
| --- | --- | --- |
| **Ingredient** | **Low-fat diet (10%)** | **High-fat diet (45%)** |
| **(Kcal)** | **Research Diets D12450J** | **Research Diets D12451** |
| Casein, 30 Mesh | 800 | 800 |
| L-Cystine | 12 | 12 |
| Corn Starch | 2024.8 | 291 |
| Maltodextrin 10 | 500 | 400 |
| Sucrose | 275.2 | 691 |
| Cellulose, BW200 | 0 | 0 |
| Soybean Oil | 225 | 225 |
| Lard\* | 180 | 1598 |
| Mineral Mix S10026 | 0 | 0 |
| DiCalcium Phosphate | 0 | 0 |
| Calcium Carbonate | 0 | 0 |
| Potassium Citrate, 1 H2O | 0 | 0 |
| Vitamin Mix V10001 | 40 | 40 |
| Choline Bitartrate | 0 | 0 |
| FD&C Red Dye #40 | 0 | 0 |
| FD&C Blue Dye #1 | 0 | 0 |
| FD&C Yellow Dye #5 | 0 | 0 |