

Supplementary Tables

Table S1 Fatty acids composition of experimental diets*

| | CHD | HBD | HCD | HMD | HPD |
|---|------|------|------|------|------|
| Total Fatty Acids, g/kg diet | | | | | |
| Total | 200 | 200 | 200 | 200 | 200 |
| Saturated fat | 178 | 99 | 114 | 121 | 102 |
| Monounsaturated fat | 3 | 80 | 67 | 60 | 78 |
| Polyunsaturated fat | 19 | 21 | 19 | 20 | 19 |
| Fatty Acid Profile, % of total fatty acids | | | | | |
| Saturated fat | 89.1 | 49.5 | 57.0 | 60.4 | 51.3 |
| Monounsaturated fat | 1.6 | 40.2 | 33.7 | 29.8 | 39.0 |
| Polyunsaturated fat | 9.4 | 10.3 | 9.3 | 9.8 | 9.7 |
| 4:0 (Butyric acid) | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| 6:0 (Hexanoic acid) | 1.8 | 0.0 | 0.0 | 2.1 | 0.0 |
| 8:0 (Caprylic acid) | 60.8 | 0.0 | 0.0 | 1.0 | 0.0 |
| 10:0 (Capric acid) | 24.9 | 0.0 | 0.0 | 1.8 | 0.0 |
| 12:0 (Lauric acid) | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 |
| 14:0 (Myristic acid) | 0.0 | 3.0 | 0.1 | 10.7 | 1.1 |
| 16:0 (Palmitic acid) | 0.8 | 24.2 | 24.2 | 24.5 | 45.3 |
| 16:1 (Palmitoleic acid) | 0.0 | 3.1 | 0.3 | 1.7 | 0.0 |
| 18:0 (Stearic acid) | 0.3 | 19.8 | 31.8 | 11.7 | 4.7 |
| 18:1 (Oleic acid) | 1.6 | 36.3 | 33.4 | 26.9 | 39.0 |
| 18:2 (Linoleic acid) | 9.4 | 9.4 | 9.3 | 9.3 | 9.4 |
| 18:3 (Linolenic acid) | 0.0 | 0.5 | 0.0 | 0.5 | 0.3 |

CHD, control high fat diet; HBD, high beef tallow diet; HCD, high cocoa butter diet; HMD, high milk fat diet; HPD, high palm oil diet.

* Data were supplied by Harlan Laboratories.

Table S2 Body weight and heart weight of mice at 3 and 6 months of feeding regimen.

| | CHD | HBD | HCD | HMD | HPD |
|---------------------|--------------|--------------|--------------|---------------|---------------|
| 3-month diet | | | | | |
| BW (g) | 32.39 ± 2.10 | 31.12 ± 3.02 | 29.99 ± 1.81 | 28.35 ± 5.77 | 38.16 ± 4.46* |
| HW (mg) | 119.9 ± 7.9 | 122.6 ± 14.0 | 116.6 ± 7.9 | 115.6 ± 17.1 | 138.7 ± 9.5 |
| HW/BW | 3.72 ± 0.45 | 3.97 ± 0.59 | 3.89 ± 0.24 | 4.18 ± 0.78 | 3.41 ± 0.12 |
| 6-month diet | | | | | |
| BW (g) | 35.27 ± 2.53 | 35.81 ± 1.42 | 35.52 ± 4.49 | 42.77 ± 3.75* | 39.66 ± 2.02 |
| HW (mg) | 139.6 ± 14.7 | 128.4 ± 9.1 | 126.5 ± 20.6 | 152.3 ± 7.7 | 137.0 ± 9.7 |
| HW/BW | 3.95 ± 0.18 | 3.59 ± 0.23 | 3.56 ± 0.35 | 3.59 ± 0.49 | 3.46 ± 0.29 |

BW, body weight; HW, heart weight; CHD, control high fat diet; HBD, high beef tallow diet; HCD, high cocoa butter diet; HMD, high milk fat diet; HPD, high palm oil diet. Values are mean ± standard deviation, n= 5. *P<0.05 versus CHD.

Table S3 Metabolic parameters of mice fed high fat diets for 3 months

| | CHD | HBD | HCD | HMD | HPD |
|------------------|--------------|---------------|---------------|---------------|----------------|
| SBP (mmHg) | 96.50 ± 3.66 | 101.77 ± 7.26 | 100.69 ± 2.89 | 103.69 ± 4.86 | 107.43 ± 18.44 |
| DBP (mmHg) | 70.04 ± 5.02 | 71.45 ± 4.51 | 72.00 ± 3.05 | 75.64 ± 2.87 | 79.23 ± 16.32 |
| Heart rate (bpm) | 710.8 ± 31.8 | 726.8 ± 27.4 | 722.6 ± 37.5 | 688.8 ± 60.9 | 722.3 ± 49.8 |
| FBGL (mmol/L) | 7.0 ± 1.4 | 7.6 ± 2.7 | 7.1 ± 1.5 | 7.8 ± 2.1 | 5.5 ± 1.1 |

SBP, systolic blood pressure; DBP, diastolic blood pressure; FBGL, fasting blood glucose level; CHD, control high fat diet; HBD, high beef tallow diet; HCD, high cocoa butter diet; HMD, high milk fat diet; HPD, high palm oil diet. Values are mean ± standard deviation, n = 5.

Table S4 Relevant parameters for cardiac function results from mice fed high fat diets.

| | CHD | HBD | HCD | HMD | HPD |
|---------------------|-------------|--------------|--------------|--------------|--------------|
| 3-month diet | | | | | |
| LVPWT (%) | 41.6 ± 3.3 | 35.1 ± 2.8* | 34.2 ± 4.3* | 30.7 ± 3.8* | 35.6 ± 2.5* |
| LVIDd (mm) | 3.61 ± 0.24 | 3.61 ± 0.27 | 3.55 ± 0.39 | 3.67 ± 0.43 | 3.71 ± 0.51 |
| LVIDs (mm) | 1.81 ± 0.24 | 2.36 ± 0.24* | 2.25 ± 0.33* | 2.39 ± 0.45* | 2.48 ± 0.37* |
| IVRT (msec) | 15.1 ± 1.1 | 17.1 ± 0.9* | 17.5 ± 1.0* | 18.2 ± 0.9* | 17.2 ± 1.3* |
| Heart rate (bpm) | 422 ± 46 | 430 ± 29 | 438 ± 30 | 466 ± 12 | 441 ± 28 |
| 6-month diet | | | | | |
| LVPWT (%) | 40.2 ± 2.6 | 31.0 ± 2.1* | 32.8 ± 2.8* | 27.6 ± 1.1* | 33.2 ± 1.9* |
| LVIDd (mm) | 3.82 ± 0.22 | 3.84 ± 0.41 | 3.94 ± 0.46 | 4.09 ± 0.51 | 4.02 ± 0.49 |
| LVIDs (mm) | 1.97 ± 0.10 | 2.69 ± 0.28* | 2.64 ± 0.47* | 2.76 ± 0.33* | 2.80 ± 0.50* |
| IVRT (msec) | 15.8 ± 1.8 | 19.2 ± 1.8* | 18.6 ± 1.5 | 19.8 ± 2.0* | 19.4 ± 1.4* |
| Heart rate (bpm) | 468 ± 19 | 469 ± 25 | 445 ± 53 | 457 ± 37 | 457 ± 48 |

LV, Left Ventricular; LVIDd, LV internal dimensions at diastole; LVIDs, LV internal dimensions at systole; LVPWT, LV posterior wall thickening; IVRT, isovolumetric relaxation time. n=5, *P<0.05 versus CHD.