**Supplementary Table S1.** List of primers used for real-time PCR (TaqMan).

| Gene | Product number | Gene | Product number |
|------|----------------|------|----------------|
| *Abca1* | Rn00710172_m1 | *Hadh* | Rn00589352_m1 |
| *Abcg5* | Rn00587092_m1 | *Hmgcr* | Rn00565598_m1 |
| *Acot12* | Rn00590651_m1 | *Lcat* | Rn00500505_m1 |
| *Apoa2* | Rn00565403_m1 | *Ldlr* | Rn00598442_m1 |
| *Cd36* | Rn00580728_m1 | *Lpl* | Rn00561482_m1 |
| *Cpt1a* | Rn00580702_m1 | *Me1* | Rn00561502_m1 |
| *Cpt1b* | Rn00566242_m1 | *Mttp* | Rn01522970_m1 |
| *Cyp3a1* | Rn03062228_m1 | *Ppara* | Rn00566193_m1 |
| *Cyp7a1* | Rn00564065_m1 | *Scd1* | Rn00594894_g1 |
| *Dgat1* | Rn00584870_m1 | *Srb1* | Rn00580588_m1 |
| *Fasn* | Rn00569117_m1 | *Thrsp* | Rn01511034_m1 |
| *Actb* | Rn00667869_m1 | | |

*Abca1*, ATP-binding cassette, subfamily A, member 1; *Abcg5*, ATP-binding cassette, subfamily G (WHITE), member 5; *Acot12*, acyl-CoA thioesterase 12; *Apoa2*, Apo-lipoprotein A2; *Cd36*, Cluster of differentiation 36; *Cpt1a*, Carnitine palmitoyltransferase 1α; *Cpt1b*, Carnitine palmitoyltransferase 1b; *Cyp3a1*, Cytochrome P450, family 3, subfamily a, polypeptide 1; *Cyp7a1*, Cholesterol 7α hydroxylase; *Dgat1*, Diacylglycerol O-acyltransferase homolog 1; *Fasn*, Fatty acid synthase; *Hadh*, hydroxyacyl-Coenzyme A dehydrogenase; *Hmgcr*, 3-Hydroxy-3-methylglutaryl-Coenzyme A reductase; *Lcat*, Lecithin cholesterol acyltransferase; *Ldlr*, Low density lipoprotein receptor; *Lpl*, Lipoprotein lipase; *Me1*, Malic enzyme 1; *Mttp*, Microsomal triacylglycerol transfer protein; *Ppara*, peroxisome proliferator activated receptor alpha; *Scd1*, Stearoyl-CoA desaturase 1; *Srb1*, Scavenger receptor class B, member 1; *Thrsp*, Thyroid hormone responsive protein; *Actb*, actin, beta.

**Supplementary Table S2.** Primer sequences for real-time PCR (SYBR green).

| Gene | Forward (5′- 3′) | Reverse (5′- 3′) |
|------|------------------|------------------|
| *Apoa1* | GGCAGAGACTATGTGTCCCAGTTT | TTGAACCCAGAGTGTCCCAGTT |
| *Dgat2* | ATGCCTGTGCTTCGGGAGTA | ACCTCCCACCACGATGACAA |
| *Lxra* | GAACAGATCCGCTTGAAGAA | ATGGCCAGCTCAGTAAAGTG |
| *Actb* | CACACTGTGCCCATCTATGA | CCGATAGTGATGACCTGACC |

*Apoa1*, Apo-lipoprotein A1; *Dgat2*, Diacylglycerol O-acyltransferase homolog 2; *Lxra*, Liver X receptor alpha; *Actb*, actin, beta.
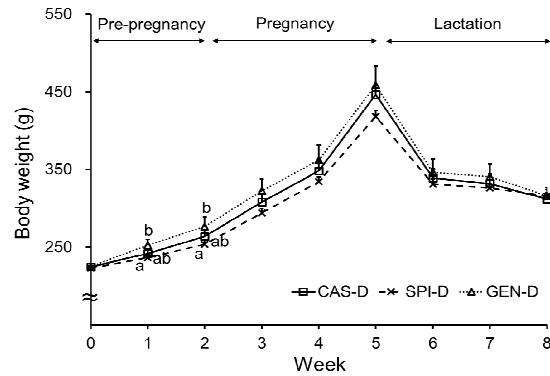
**Supplementary Figure S1.** Effects of diets on body weight of dams during pre-pregnancy, pregnancy, and lactation. Data are means ± standard error of the mean ($n$ = 6–9). Means with different superscripts are significantly different at $p < 0.05$. CAS-D, dams fed a casein diet; SPI-D, dams fed a low-isoflavone soy protein isolate diet; GEN-D, dams fed a casein plus genistein diet.
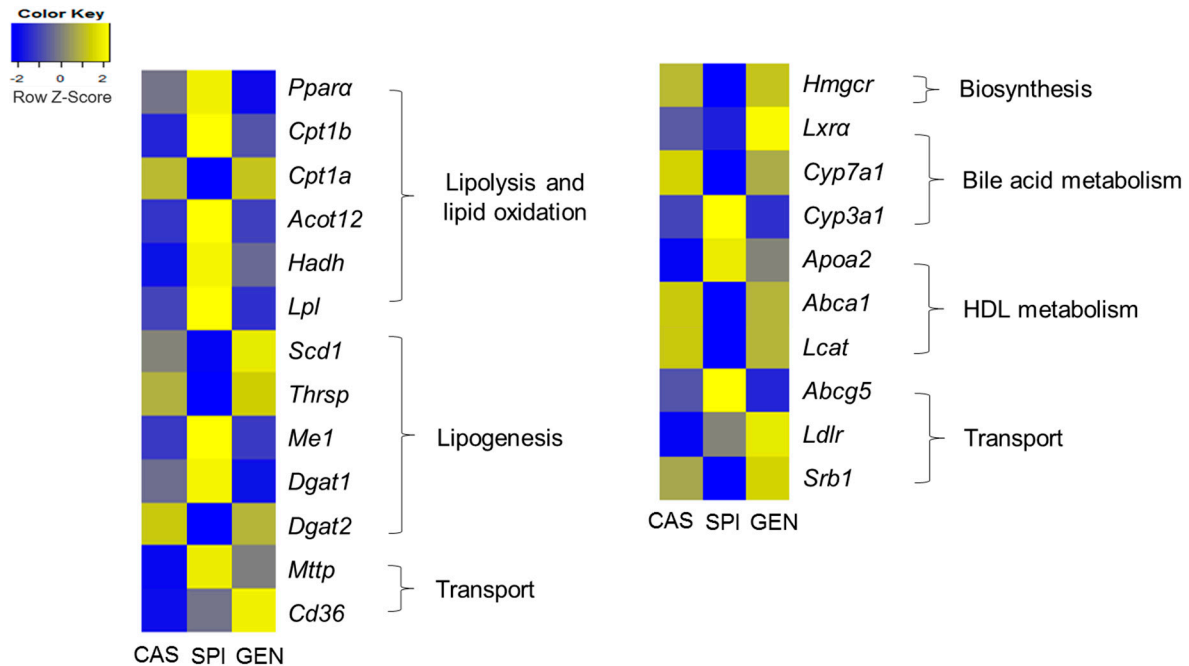


**Supplementary Figure S2.** Effects of maternal diet on hepatic gene expression related to lipid metabolism of male offspring. Each column of heat map represents the mean of the individual differentially expressed genes in maternal diet group ($n$ = 4). Data were Z-score normalized. Yellow color represents the upregulated gene expression compared with the mean, whereas blue color represents the downregulated gene expression below the mean.