**Supplemental Figure 1.** Representative 2-D gels of kidney proteins from db/m and db/db mice. Among the proteins with differential expression, a total of 8 protein spots, including 5 downregulated (spots 1-5) and 3 upregulated (spots 6-8) were selected for protein identification by MALDI-TOF MS. Detailed information about these identified proteins are in Table 2. The labeling corresponds to the spot numbers listed in Table 2.

**Supplemental Figure 2.** Real-time PCR analysis demonstrated that mRNA levels of Aspartoacylase-3 (Acy3), D-lactate dehydrogenase (Ldhd), Nucleoside diphosphate-linked moiety X motif 19 (Nudt19) and Protein kinase C inhibitor protein 1 (KCIP-1) were significantly reduced, while HMGCS2 and similar to Ig heavy chain V-III region VH26 precursor (VH26) mRNA levels were significantly increased (n=6). The mRNA levels of gene examined were normalized to those of β-actin. * p< 0.05 , **p<0.01 vs. db/m.

**Supplemental Figure 3.** Real-time PCR (A) and western blot (B) analysis demonstrated that HMGCS2 mRNA and protein levels in diabetic mouse livers were significantly increased (n=6). The mRNA levels of HMGCS2 were normalized to those of β-actin. The protein levels were normalized to those of tubulin. * p< 0.05 vs. db/m.

**Supplemental Figure 4.** A) Histological examination of db/m and db/db mouse
kidney. Renal glomeruli of db/db mouse exhibited mesangial expansion and fibrosis.

PAS staining, magnification, 400X. B) Immunostaining study demonstrated increased collagen I expression in db/db mouse kidney. C) Immunohistochemical analysis showing increased collagen IV expression in diabetic kidney.