## **Supplementary figure legends**

Supplementary Fig 1: HFD induced the accumulation of lipid droplets and vacuole in the livers of C57BL/6 mice. After the mice were fed with HFD for continued 16 weeks, the livers were collected, and the liver sections from the standard chow diet (C57) and HFD-fed mice (C57-HFD) were stained with H&E and oil red O. Scale bar = $25\mu$ m.

Supplementary Fig 2: PA/OA induced the expression of FBP2 in LO2 cells. After LO2 cells were incubated with 0.4 mM PA or 2.0 mM OA for 24 hours, the cells were fixed and observed by immunofluorescence staining with FBP2 antibody. Scale bar =  $25 \mu m$ .

## Supplementary Fig 3: PA but not glucose-induced the expression of FBP2 in LO2

**cells.** After LO2 cells were incubated with 0.4 mM PA and/or 25 mM glucose (HG) for 24 hours, the mRNA level of FBP2 gene was determined with RT-PCR and western blot respectively. Data are shown as mean  $\pm$  SD (n = 3 for western blot, n = 6 for RT-PCR). \*\*, p < 0.01 vs. control (Con).

Supplementary Fig 4: PA/OA accelerates the accumulation of lipid droplets in LO2 cells. After LO2 cells were incubated with 0.4 mM PA or 2.0 mM OA for 24 hours, the cells were fixed and stained with oil red (A). after washed once with PBS, the oil red was dissolved in isopropanol, and the absorbance was determined at 515 nm. \*\*, p < 0.01 vs. control (Con). Scale bar = 20 µm.