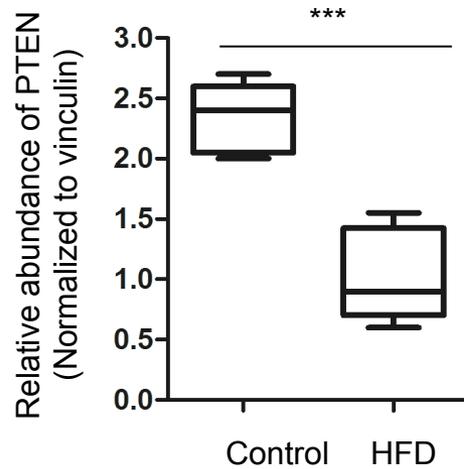
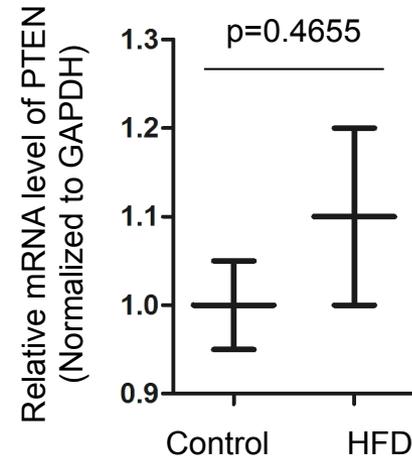
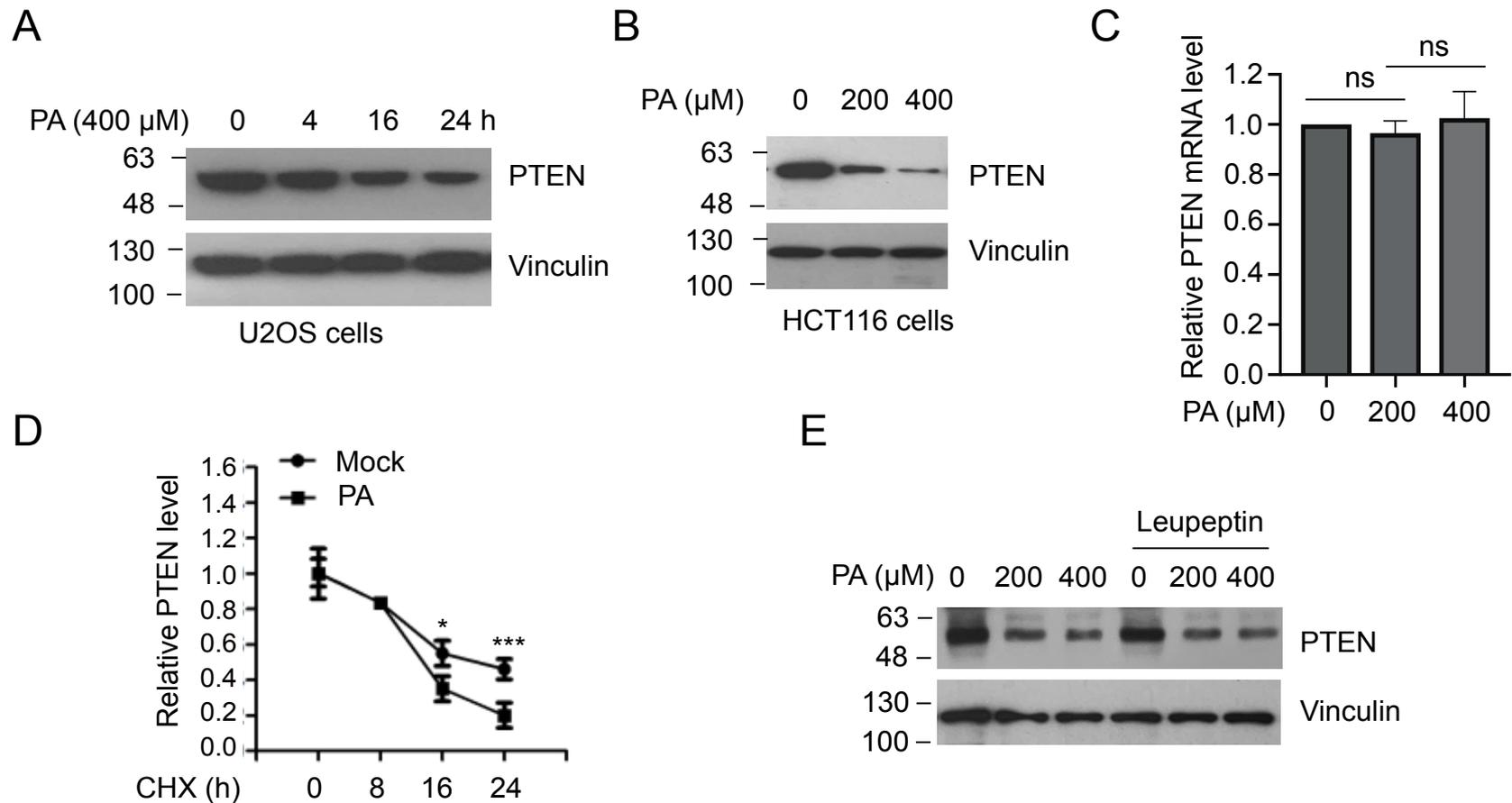
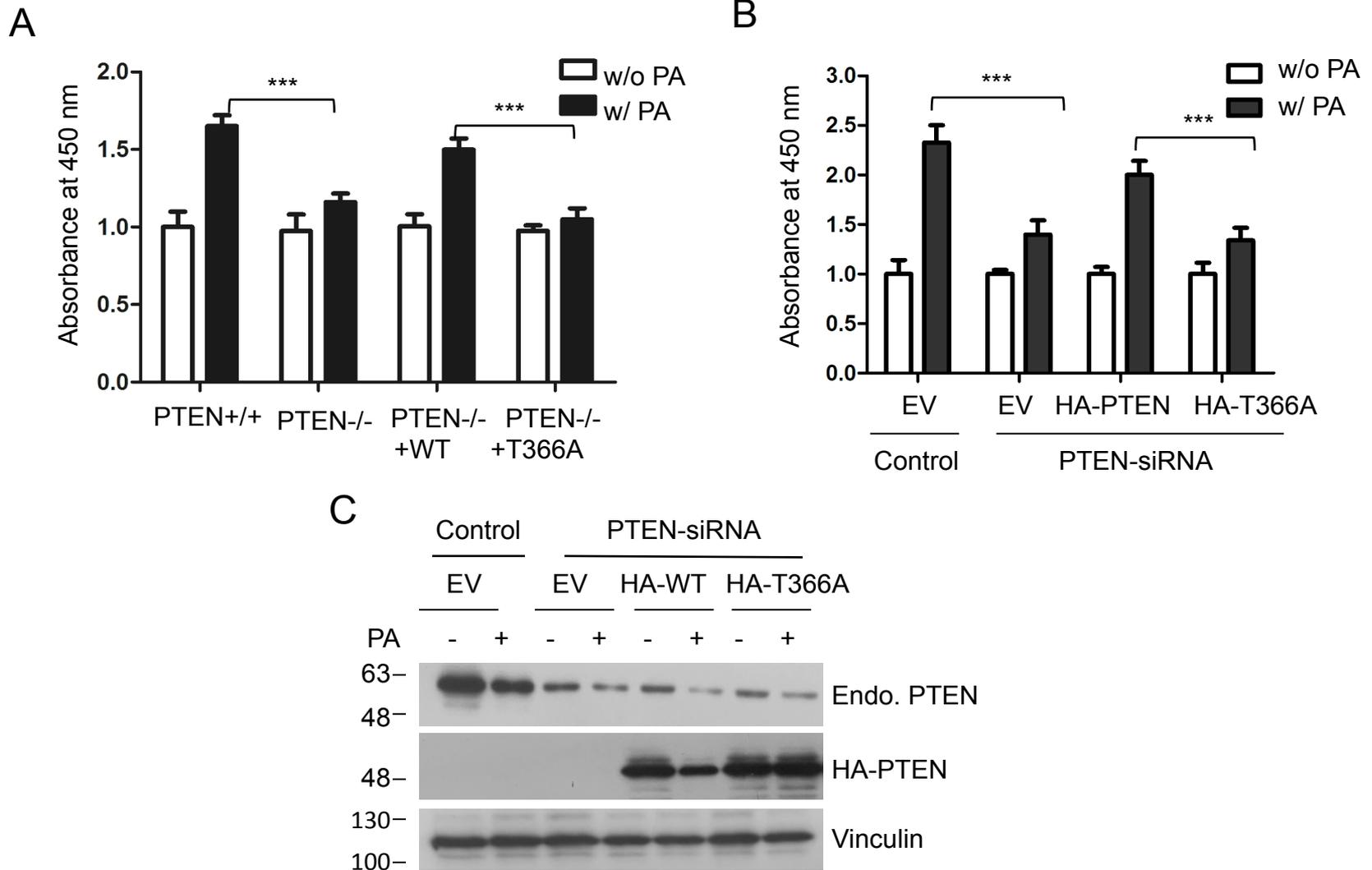


A**B**

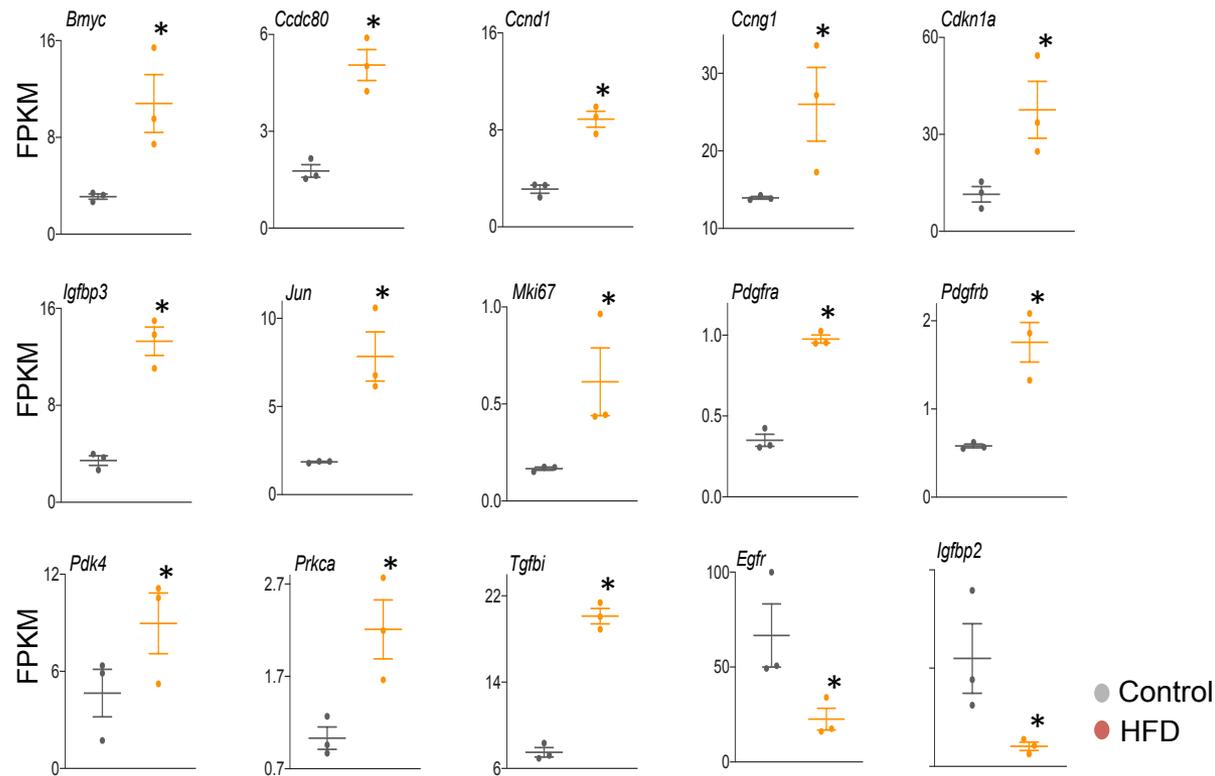
Supplementary Figure 1. (A) Relative PTEN protein levels from liver samples of 8 HFD-fed mice and 8 control mice were detected by IB with PTEN antibody, normalized to vinculin, and analyzed using One-way Anova. **(B)** Relative PTEN mRNA levels from liver samples of 5 HFD-fed mice and 5 control mice were detected by RT-qPCR. *** $p < 0.001$.



Supplementary Figure 2. (A) U2OS cells were exposed to 400 μ M PA for the indicated times and the PTEN protein levels were determined by IB analysis with PTEN antibody. **(B)** HCT116 cells were treated with increasing concentrations of PA and PTEN protein levels were determined by IB. **(C)** HCT116 cells were treated with PA and the mRNA level of PTEN was detected by RT-qPCR assay. NS, no significance. **(D)** U2OS cells, with or without 400 μ M PA, were treated with cycloheximide and the PTEN protein levels were determined at the indicated times following the treatment. **(E)** U2OS cells were treated with PA, with or without leupeptin, for 16 h. The level of PTEN was detected. * $p < 0.05$; *** $p < 0.001$.



Supplementary Figure 3. (A) HCT116 PTEN^{+/+} or PTEN^{-/-} cells were treated with control or 400 μ M PA, transfected with wild type PTEN or T366A, and cell proliferation was determined by the CCK8 assay. **(B, C)** U2OS cells, transfected with PTEN-siRNA, wild type PTEN or T366A as indicated, were treated with control or 400 μ M PA. Cell proliferation was determined by the CCK8 assay. The levels of endogenous and transfected PTEN were determined by IB. *** $p < 0.001$.



Supplementary Figure 4. Select proliferation related liver genes dysregulated in HFD. Absolute expression levels from RNA-seq data in FPKM of dysregulated genes in the livers of control and HFD fed male mice at 35 weeks (Reference: PMID: 26200659, the same HFD was referred to as LA-HFD in the study). Shown are 15 representative genes out of 203 proliferation related genes identified by comparison with Pubmed Gene lists. * HFD values are significantly different from control (P and q-value ≤ 0.05).