

Figure S1. Effect of probiotics on physics and visceral index in high cholesterol diet-induced hypercholesterolemia. Body weight (A), food intake (B) and water intake (C) were recording. Index of spleen (D) and kidney (E) was indicated as ratio of organ/weight $\times 100$. ND: normal diet; HCD: high cholesterol diet; ZDY04: HCD with *Lactiplantibacillus plantarum* ZDY04; WLPL21: *L. plantarum* WLPL21; WLPL72: *L. plantarum* WLPL72; W21E23: HCD with bacterial cocktail of *L. plantarum* WLPL21 and *Enterococcus faecium* W21E23; W72E23: HCD with bacterial cocktail of *L. plantarum* WLPL21 and *E. faecium* W72E23. Data were expressed as mean \pm SD. **** $p < 0.0001$, data in HCD were compared to HCD.

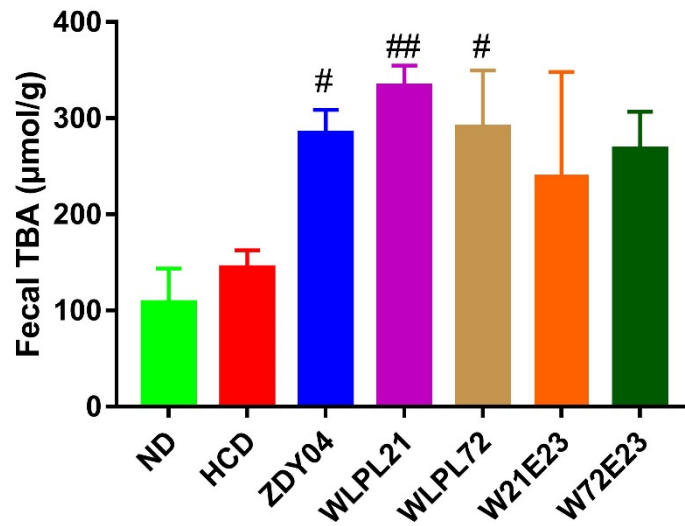
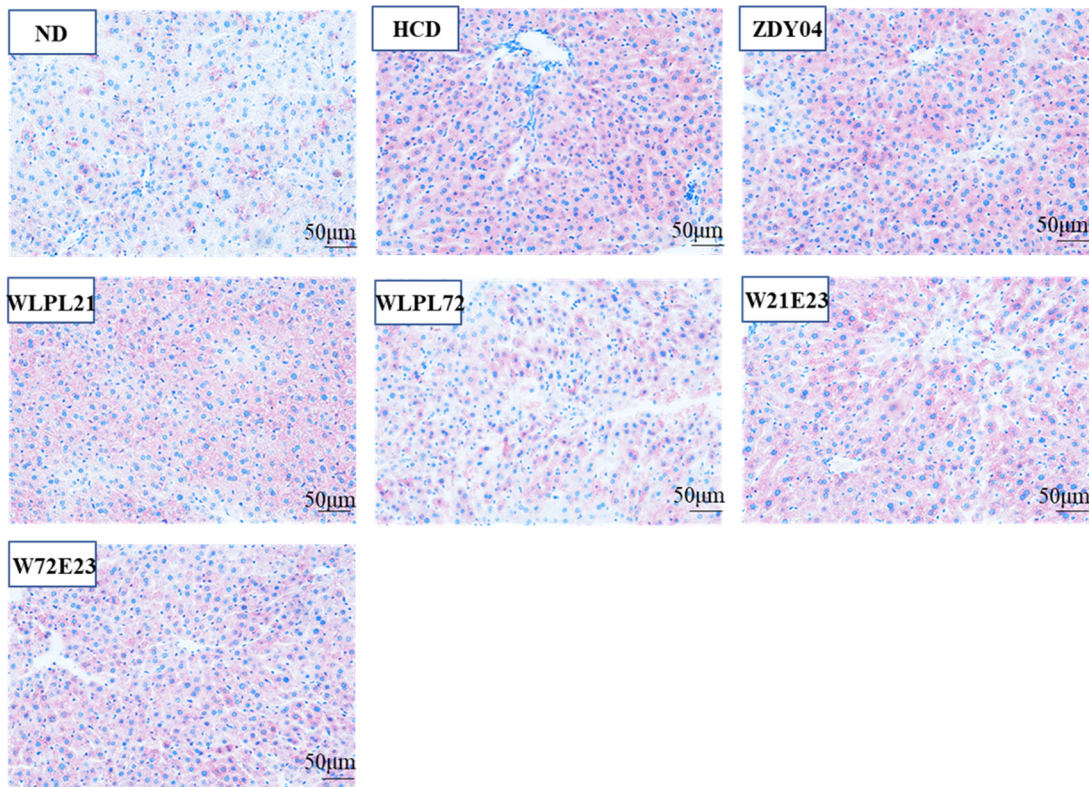


Figure S2. Effect of probiotics on cholesterol metabolism by detecting total bile acid (TBA) in fecal. ND: normal diet; HCD: high cholesterol diet; ZDY04: HCD with *L. plantarum* ZDY04; WLPL21: *L. plantarum* WLPL21; WLPL72: *L. plantarum* WLPL72; W21E23: HCD with bacterial cocktail of *L. plantarum* WLPL21 and *E. faecium* WEFA23; W72E23: HCD with bacterial cocktail of *L. plantarum* WLPL21 and *E. faecium* WEFA23. Data were expressed as mean \pm SD. * $p < 0.05$, ** $p < 0.01$, data in probiotic groups were compared to HCD.

A



B

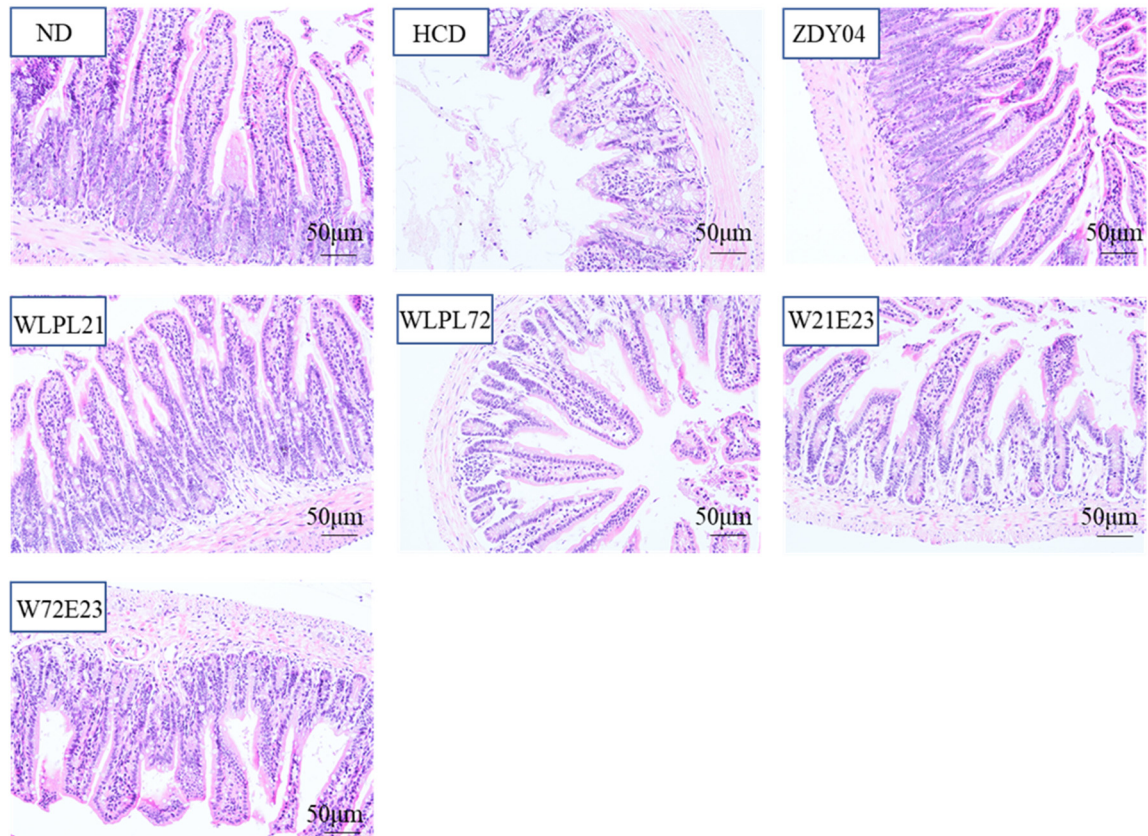


Figure S3. Effect of probiotics on hepatic lipid deposition detected by oil Red O (A) ($\times 200$) and histology of intestine tissue analyzed by H & E (B) ($\times 200$) in hypercholesterolemic mice. ND: normal diet; HCD: high cholesterol diet; ZDY04: HCD with *L. plantarum* ZDY04; WLPL21: *L. plantarum* WLPL21; WLPL72: *L. plantarum* WLPL72; W21E23: HCD with bacterial cocktail of *L. plantarum* WLPL21 and *E. faecium* WEFA23; W72E23: HCD with bacterial cocktail of *L. plantarum* WLPL21 and *E. faecium* WEFA23.