

**Hepatic parenchymal cell and mitochondrial-targeted astaxanthin nanocarriers
for relief of high fat diet-induced nonalcoholic fatty liver disease**

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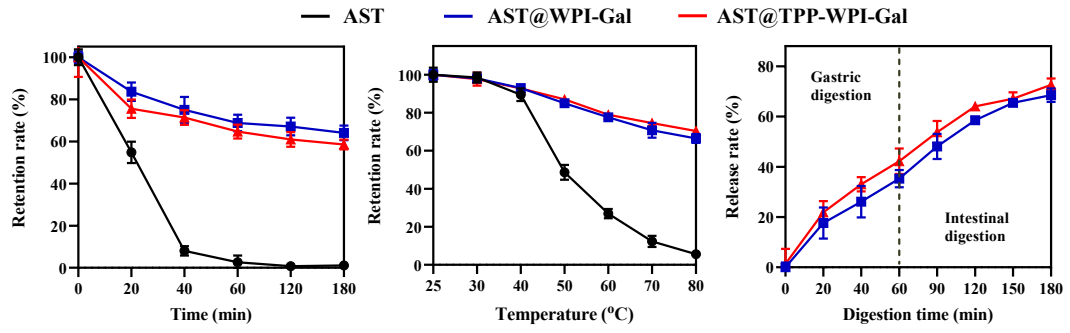


Figure S1 Stability of AST, AST@WPI-Gal and AST@TPP-WPI-Gal nanocarriers under the UV irradiation, different temperatures and gastrointestinal digestion.

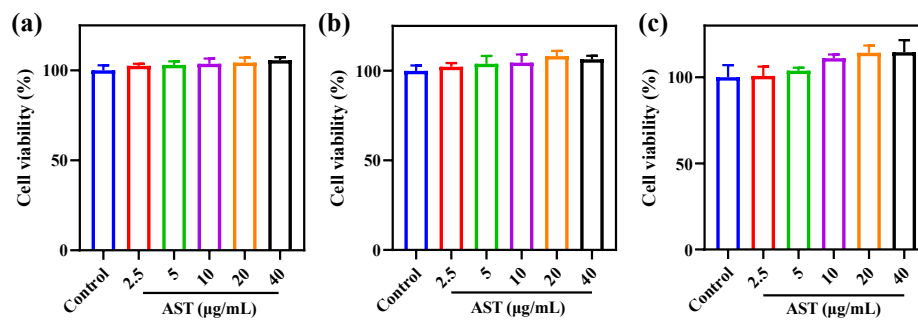


Figure S2. Cell viability analysis for the HepG2 cells incubated with (a) free AST, (b) AST@WPI-Gal and (c) AST@TPP-WPI-Gal.

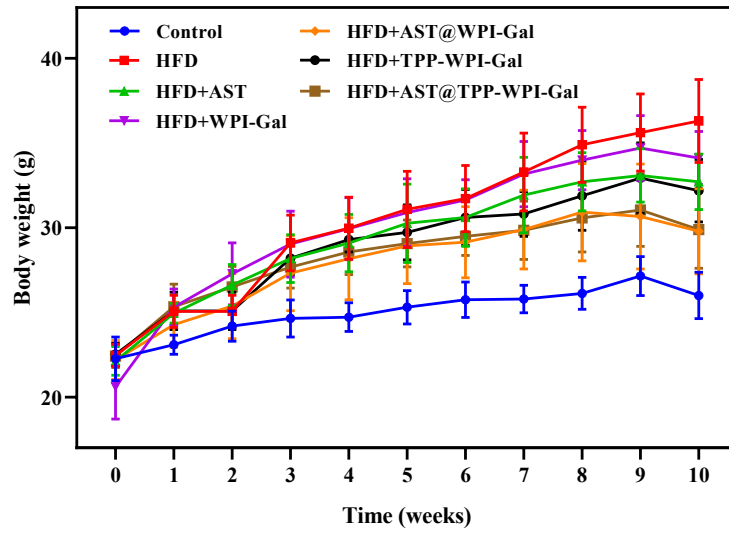


Figure S3 Body weight changes of mice during 6 weeks of different treatments (n=10/group): Control, HFD, HFD+free AST, HFD+WPI-Gal, HFD+AST@WPI-Gal, HFD+TPP-WPI-Gal and HFD+AST@TPP-WPI-Gal nanoparticles.

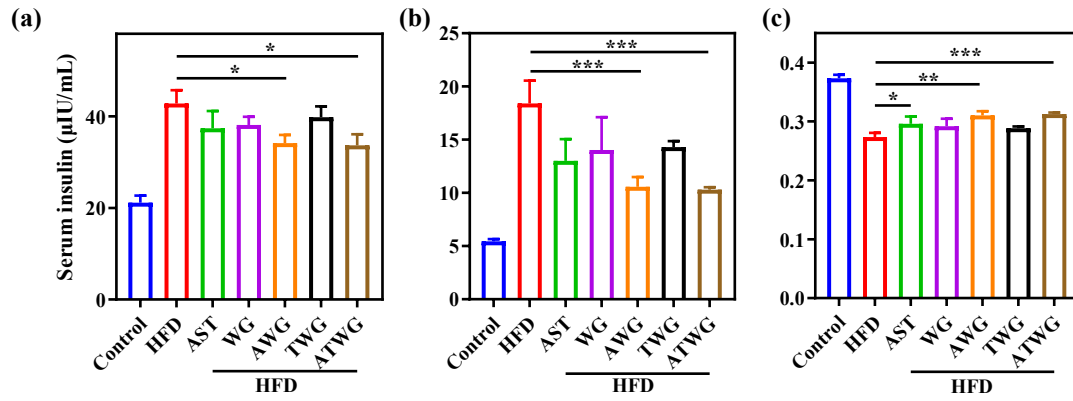


Figure S4 Determination of serum (a) insulin, (b) homeostatic model assessment of insulin resistance and (c) quantitative insulin sensitivity check index levels after 6 weeks of different treatments (n=10/group). WG: WPI-Gal, AWG: AST@WPI-Gal, TWG: TPP-WPI-Gal, ATWG: AST@TPP-WPI-Gal.

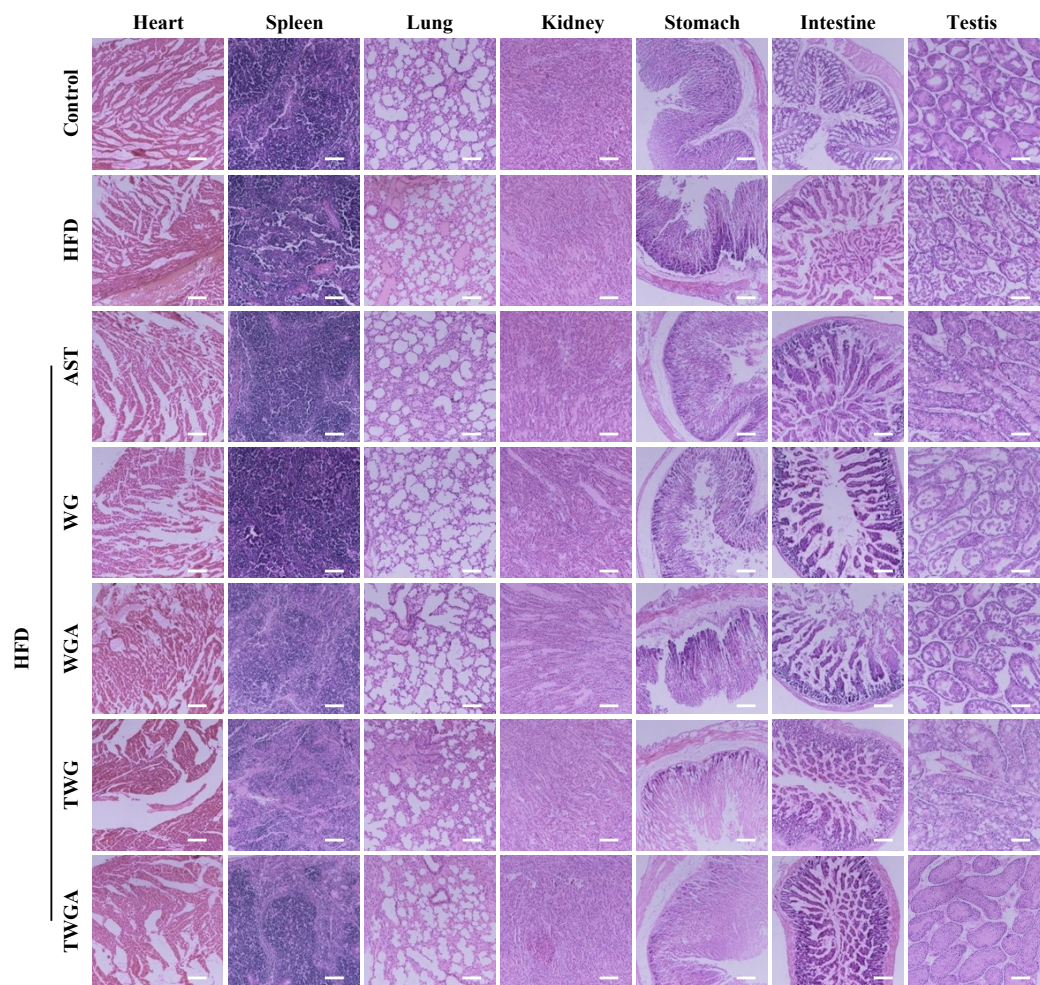


Figure S5 Histopathological images of heart, spleen, lung, kidney, stomach, intestine and testis sections staining of mice under different treatments for 6 weeks. Scale bar: 400 μ m. WG: WPI-Gal, AWG: AST@WPI-Gal, TWG: TPP-WPI-Gal, ATWG: AST@TPP-WPI-Gal.