

Supplemental Data

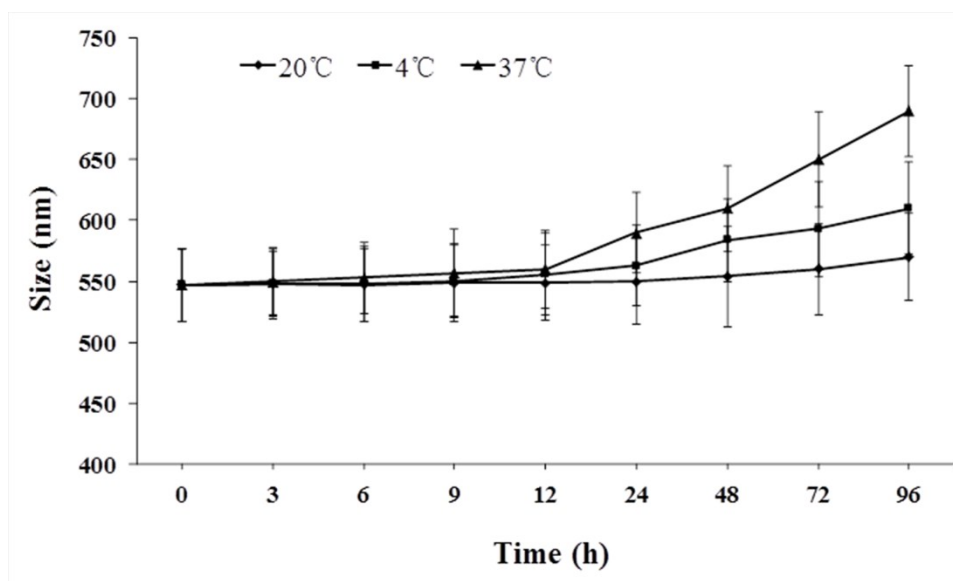


Fig. S1 Stability of Ast/DC resuspension at different temperatures (20°C, 4°C and 37°C).

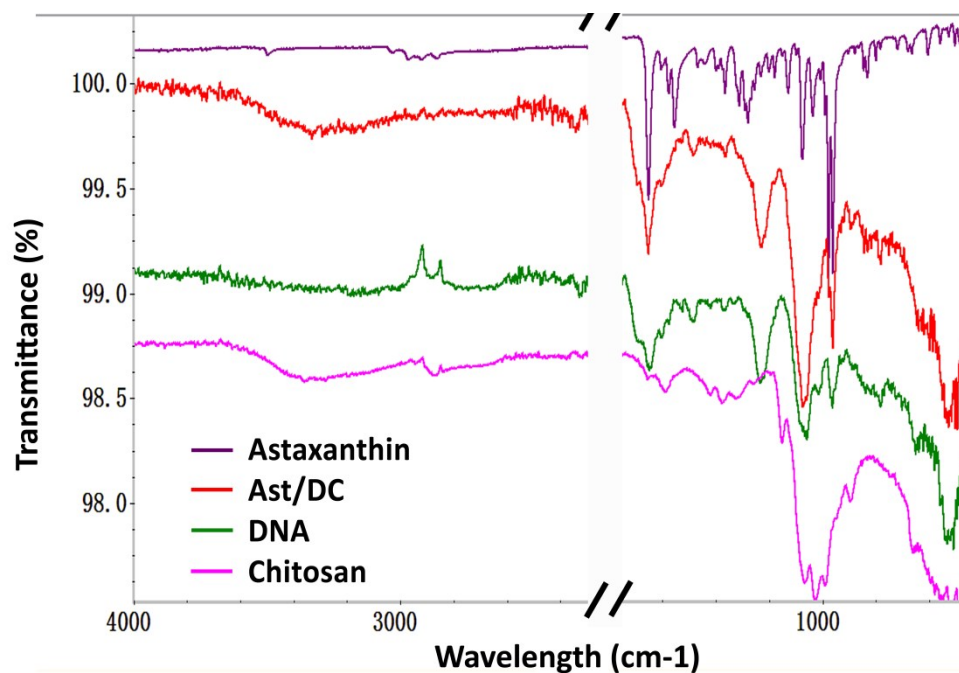


Fig. S2 FT-IR spectra of astaxanthin, Ast/DC, DNA and Chitosan in the region 600-4000 cm⁻¹.

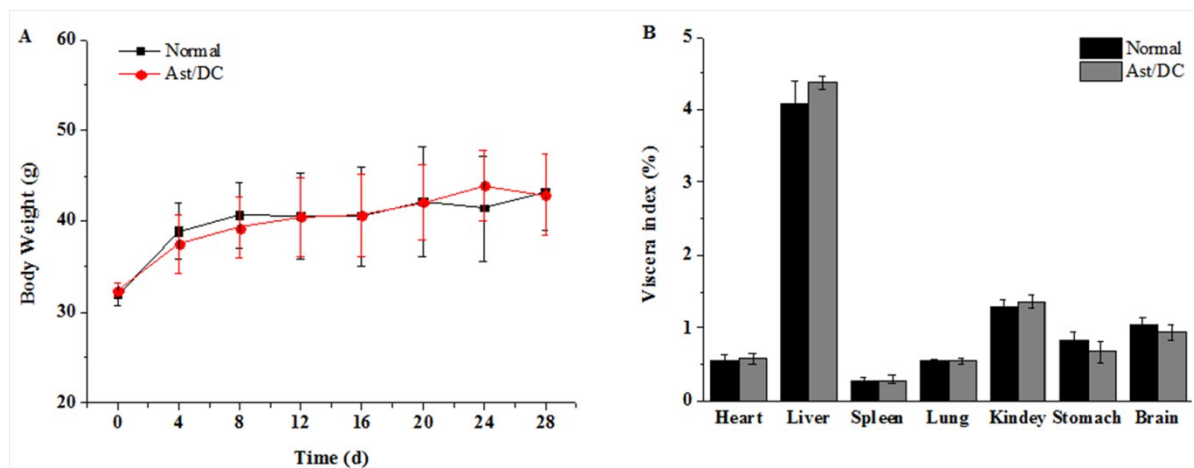


Fig. S3 Body weight (A) and viscera index (B) of the mice administrated with water (normal) and Ast/DC nanoparticles, respectively.

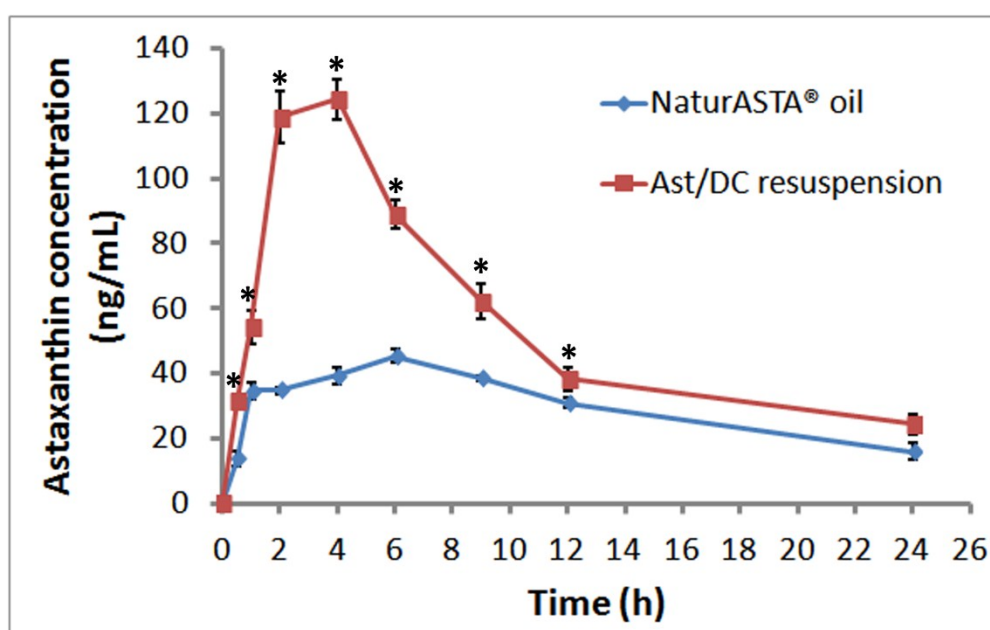


Fig. S4 Plasma astaxanthin concentration vs. time profiles after oral administration of astaxanthin oil and Ast/DC nanoparticles. Asterisks (*) denote the statistical significance compared with the NaturASTA® oil group, * $P < 0.01$ ($n=3$)

Table S1. Element contents (%) of Ast/DC and DNA based on XPS analysis

Sample	Atom percentage (%)			
	C	O	N	P
Ast/DC	62.7	28.2	8.04	1.06
DNA	51.32	28.77	15.34	4.57