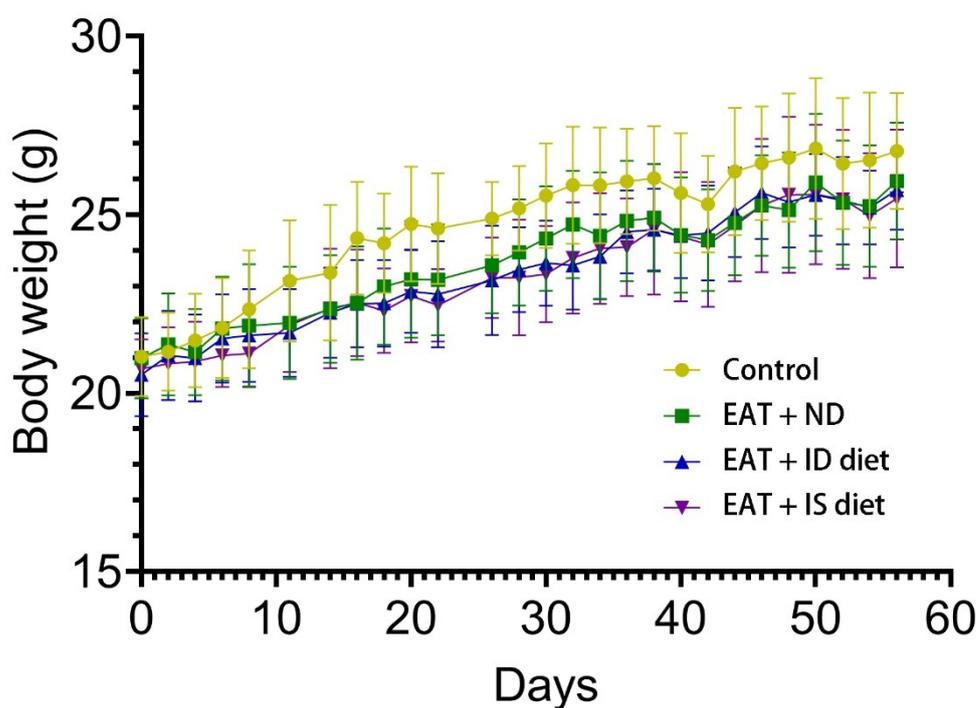
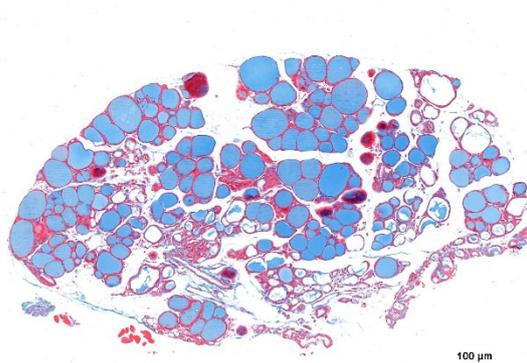


## Supplementary Information

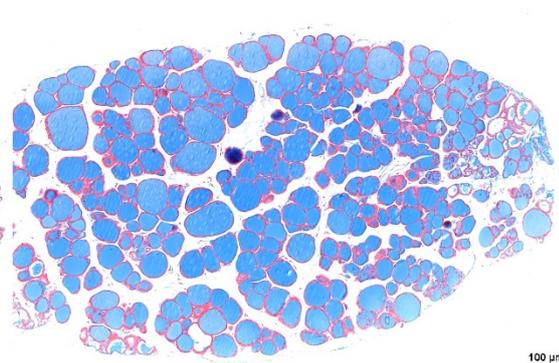


**Supplementary Figure S1.** The body weight changes of mice during the 8-week EAT model induction and iron intervention period. No significant differences in body weight gain were observed among the groups. Data are presented as mean  $\pm$  standard error of the mean (SEM),  $n = 12$ .

A. EAT + ND



B. EAT + IS



**Supplementary Figure S2.** Iron supplementation does not promote thyroid fibrosis in EAT mice. Representative Masson's trichrome staining of thyroid tissues from (A) EAT+ND group and (B) EAT+IS group. Collagen fibers are stained blue, cytoplasm and muscle fibers appear red. No significant difference in interstitial collagen deposition was observed between the two groups, indicating that iron supplementation did not induce thyroid fibrosis during the 8-week experimental period. Scale bar = 100  $\mu\text{m}$ .  $n = 3-4$

mice per group.