**Supplementary Figure I.** Ursolic acid did not affect LPS-induced IL-6 and TNFα expression and secretion in mouse macrophages. **A.** Mouse pMΦs were treated with LPS (100 ng/ml) and/or UA (10 µM) as indicated for 6 h. IL-6 and TNFα mRNA expression was analyzed by qPCR. **B.** Mouse pMΦs were treated with LPS (100 ng/ml) and/or UA (10 µM) as indicated for 16 h, and conditioned medium was collected for analysis of IL-6 and TNFα protein concentrations by ELISA.

**Supplementary Figure II.** Effects of ursolic acid on metabolic parameters and serum cytokine levels in mice. Ursolic acid administration did not significantly affect mouse food intake (A) and body weight (B) in LDLR−/− mice. Ursolic acid administration did not significantly affect mouse serum cholesterol (C), triglycerides (D), and blood glucose (E) levels in LDLR−/− mice, as well as plasma lipid FPLC profiles (F and G). Ursolic acid reduced serum IL-6 and TNFα levels in LDLR−/− mice fed a western diet (H).

**Supplementary Figure III.** Effects of UA treatment on aortic atherosclerotic lesions. **A.** The lesion area of the frozen aortic root sections were visualized by H&E staining and quantified by Image-Pro Plus 6.0. The quantitative analysis and representative images are shown. **B.** Representative images for en face aorta of LDLR−/− mice fed a western diet in control group and UA-treated group (Abdominal aortas are not shown). **C.** Quantitative analysis of lesions in en face aorta is shown.
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