Supporting Information

Ultrasmall Antioxidant Cerium Oxide Nanoparticles For Regulation Of Acute Inflammation

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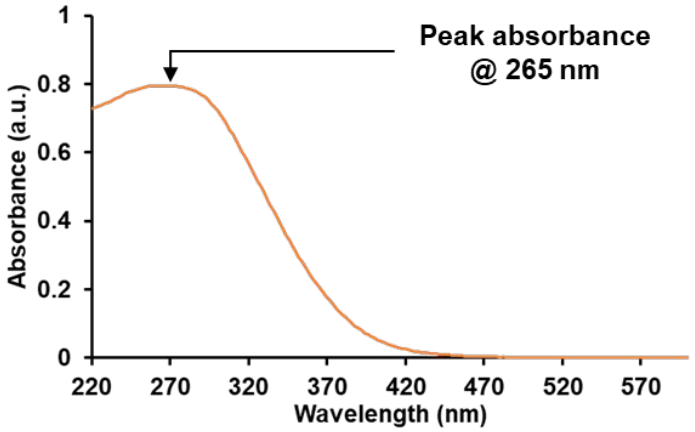

Figure S1. UV-vis spectrum of CeONP.

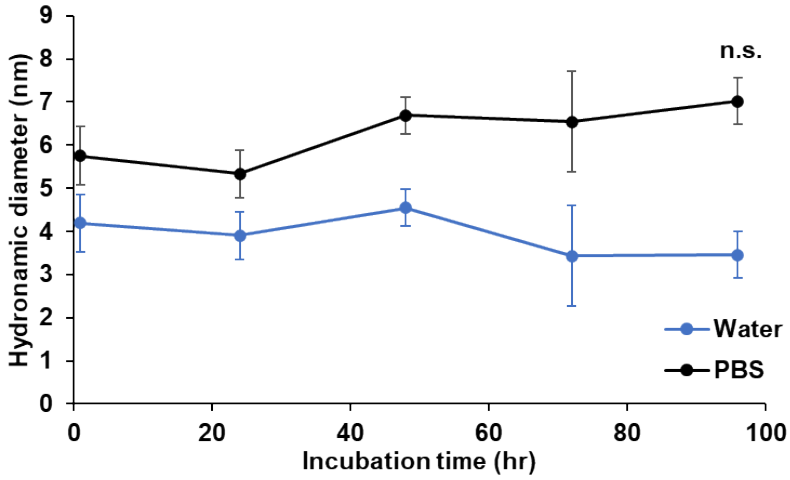

Figure S2. Hydrodynamic diameters of CeONP in water and PBS at 24, 48, 72, and 96 h (mean ± SD; *n* = 5; n.s. = not significant).

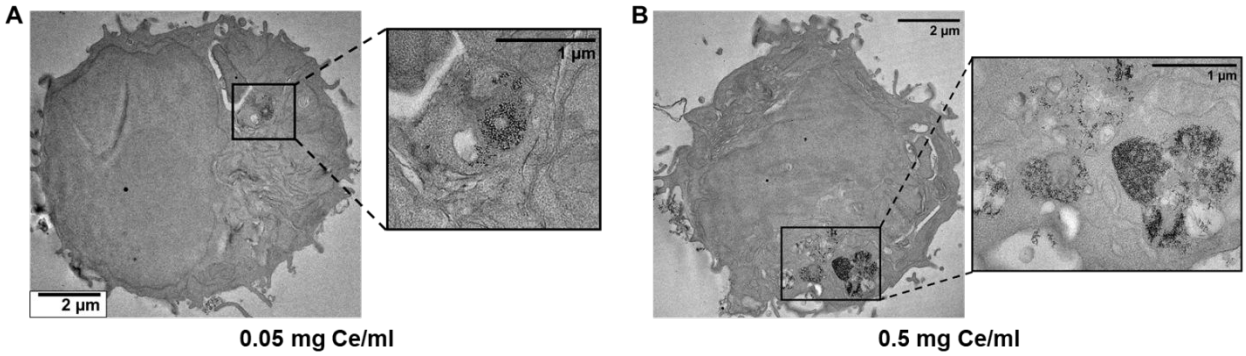

Figure S3. TEM of CeONP-treated macrophages at concentrations of 0.05 mg/ml and 0.5 mg/ml.

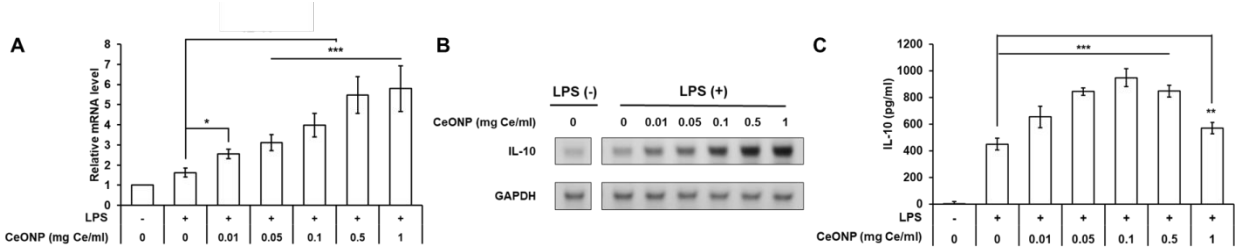

Figure S4. A) mRNA expression and B) corresponding mRNA gel electrophoresis image, and C) cytokine secretion level (ELISA) of IL-10 in LPS-stimulated RAW 264.7 cells (mean ± SD; n = 6; *p < 0.05, **p < 0.01, and ***p < 0.001).

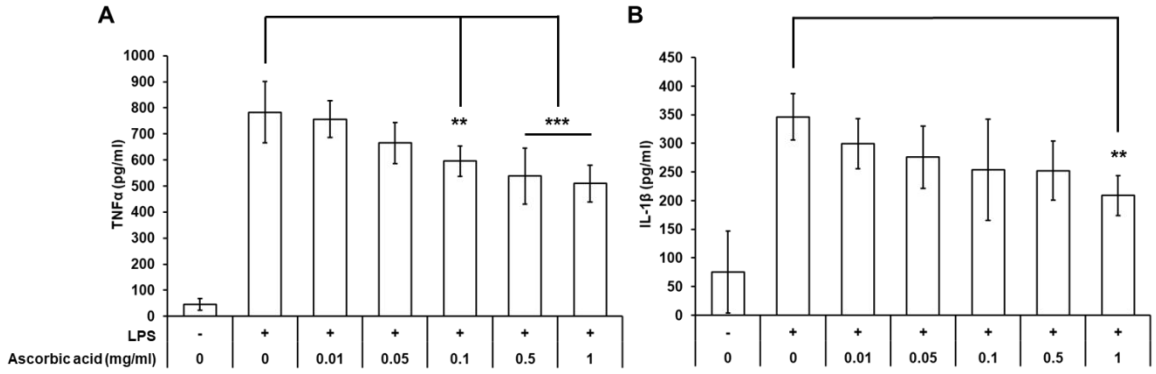

Figure S5. *In vitro* anti-inflammatory effect of an antioxidant, ascorbic acid, in LPS-stimulated macrophages shown by change in cytokine secretion of A) TNFα and B) IL-1β (mean ± SD; n = 8; *p < 0.05, **p < 0.01, and ***p < 0.001).

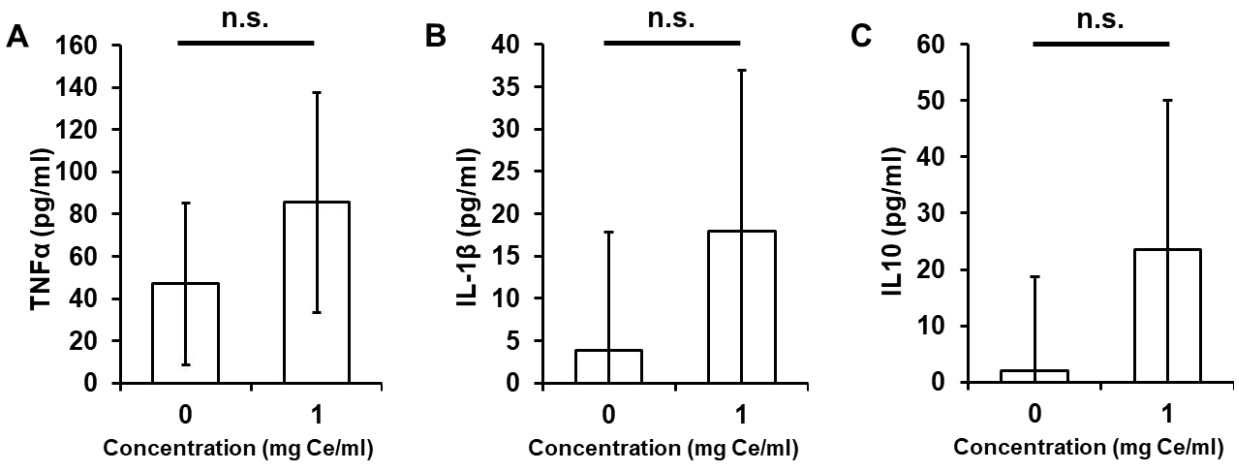

Figure S6. Effect of CeONP on cytokine production of macrophage without LPS stimulation (mean ± SD; *n* = 8; n.s. = not significant).

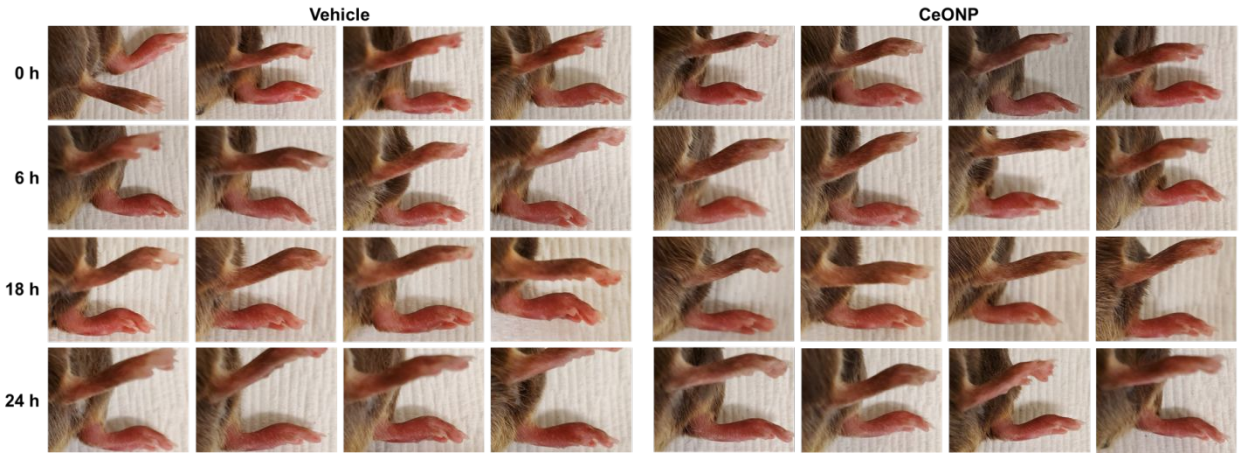

Figure S7. Images of inflamed paws of vehicle injected and CeONP treated mice over 24 h period. In each case, the inflamed paw is the left paw (i.e., the paw further from the camera). The right paw is a non-inflamed control.

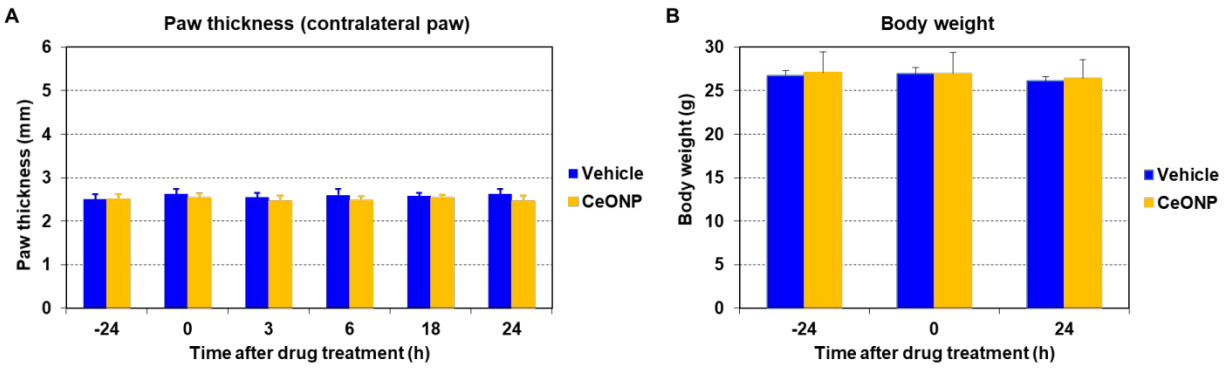

Figure S8. A) Paw thickness of contralateral paws (no inflammation induction via CFA injection) B) Body weight of mice during CFA injection and CeONP treatment (mean ± SD; *n* = 8).

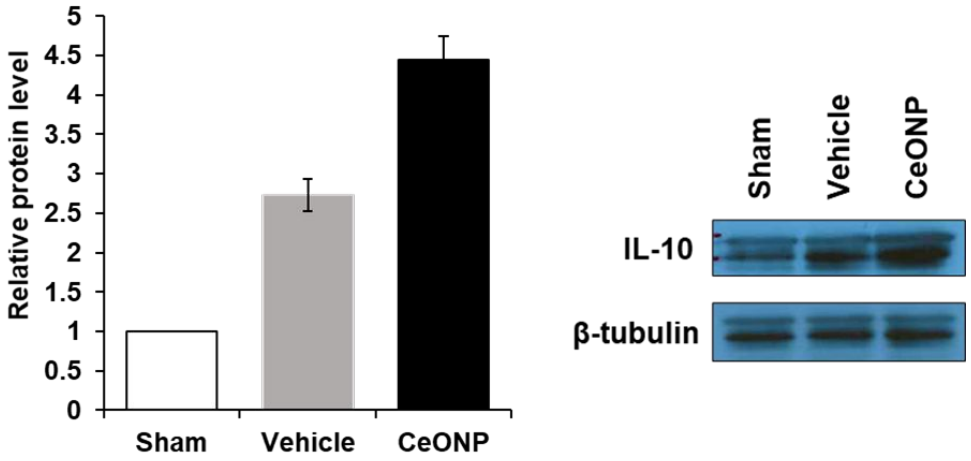

Figure S9. Western blot analysis of IL-10 in inflamed paws of each treatment group. No inflammation induction in sham group (*n* = 4). (mean ± SD; *n* = 4).

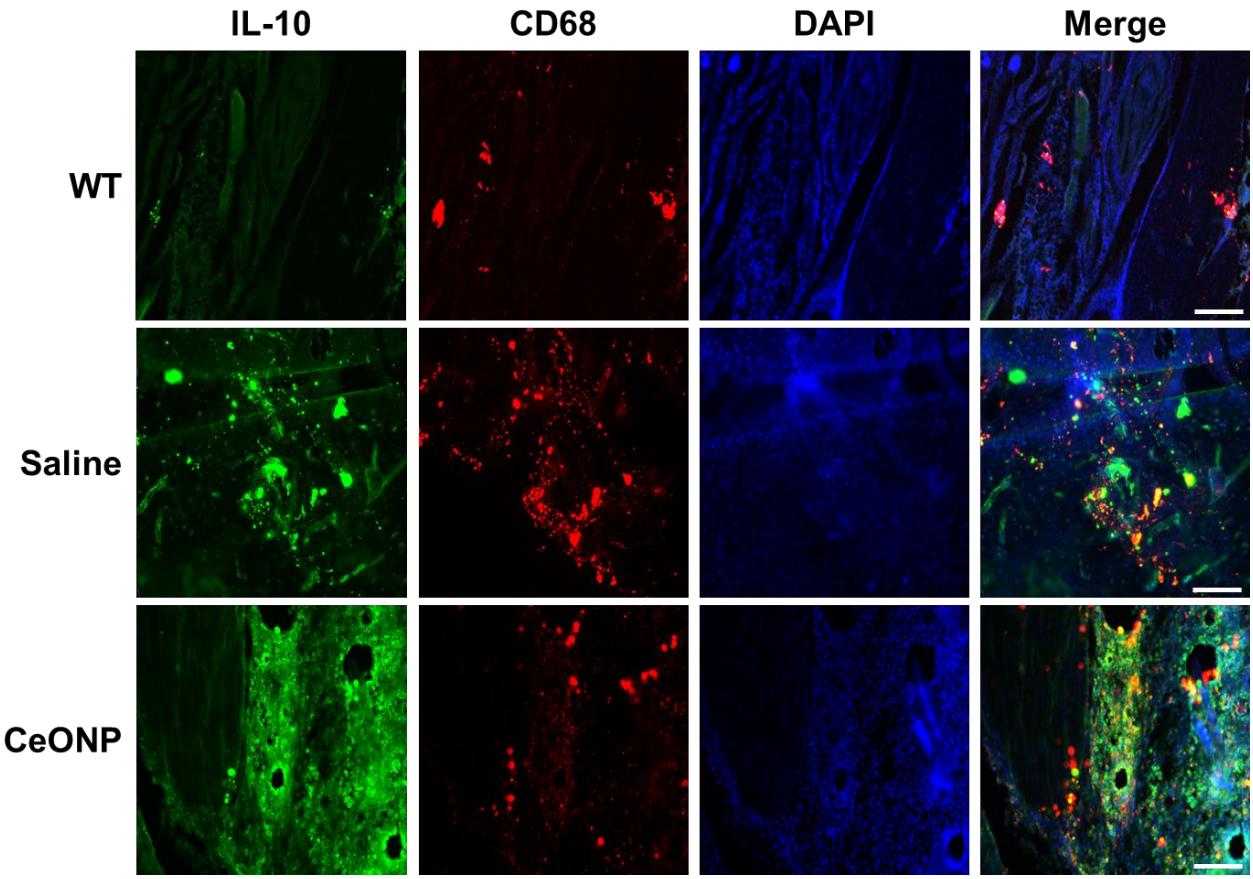

Figure S10. Immunofluorescence staining of CD68 and DAPI markers in paw tissues merged with IL-10 marker. Scale bar = 200 μm.

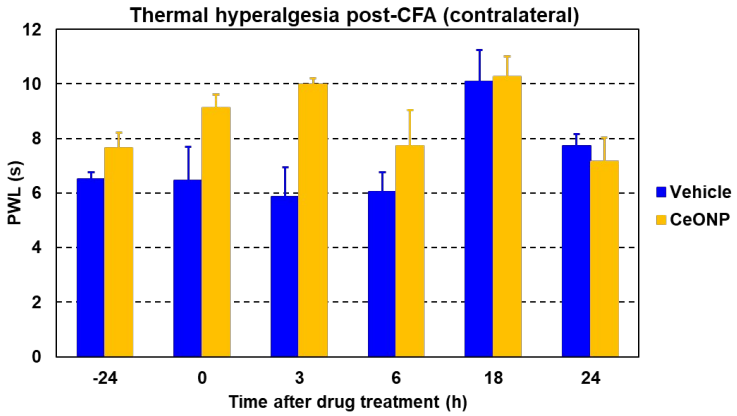

Figure S11. PWL in contralateral paws. (mean ± SD; *n* = 4).