**Supplementary Information for**

Harmine alleviates titanium particle-induced inflammatory bone destruction by immunomodulatory effect on the macrophage polarization and subsequent osteogenic differentiation

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**Fig. S1.** Harmine has no toxicity for the mice in vivo. H&E staining of (A) liver and (B) kidney. Biochemical index evaluation of blood samples: (C) ALT, (D) AST, (E) ALP, (F) BUN, (G) UA and (H) CK. All indexes are in normal range. n = 3. All data were expressed as the mean ± SD.

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**Fig. S2.** Harmine promoted the polarization of macrophages from M1 to M2 in BMDM. Representative immunofluorescent staining images: green (M1 marker: iNOS and M2 marker: Arg-1), and blue (Dapi, directing against nuclei). n=3.

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**Fig. S3.** Harmine reduced iNOS expression and enhanced CD206 expression in vitro. (A) iNOS and CD206 protein levels, detected by western blot analysis. (B) The relative levels of iNOS and CD206. n = 3. All data were expressed as the mean ± SD, ns. no significance, \*p < 0.05, \*\*p < 0.01.



**Fig. S4.** Harmine did not suppress Ti particle-induced activation of NF-κB signaling in vitro. (A)P-p65 and p65 protein levels at various times, detected by western blot analysis. (B) The relative levels of P-p65/p65. n=3. All data were expressed as the mean ± SD, ns. no significance.