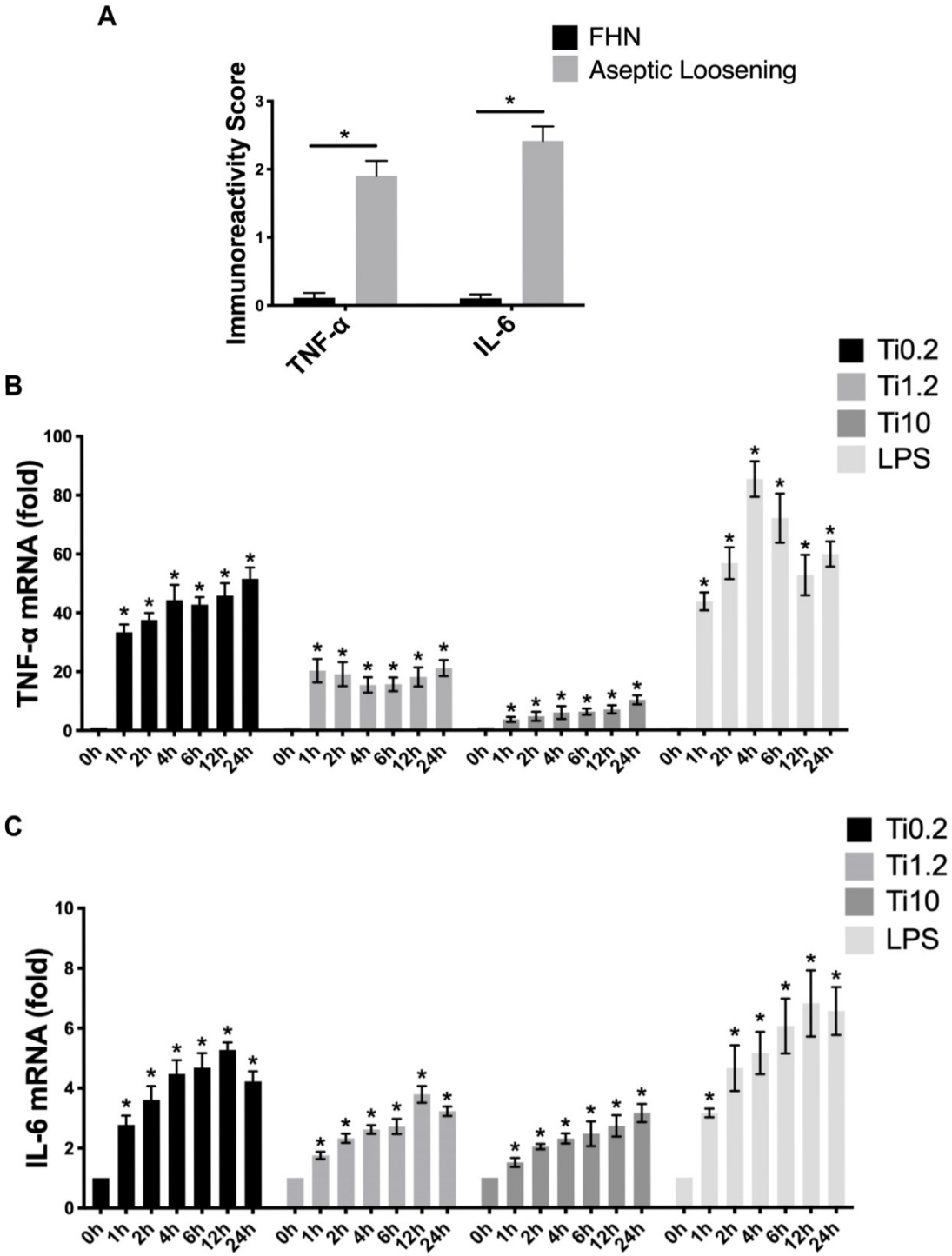

Fig. S1 TNF-α and IL-6 increased in synovial membranes from around aseptic loosening prosthesis and in BMDMs after TiPs and LPS stimulation. (A) The immunoreactivity score of TNF-α and IL-6 in specimens from AL and FHN patients. (B) The mRNA expression of TNF-α and IL-6 in BMDMs were upregulated after the stimulation by Ti0.2, Ti1.2, Ti 10 or LPS at every time points ($P<0.05$). *$P<0.05$. Two-sided Student's t-test was utilized in Fig. S1A. One-way ANOVA with Fisher's LSD test was utilized in Fig. S1B, C. All data are shown as the mean±SD. The assays were performed at least three times for each sample.

Supplementary material

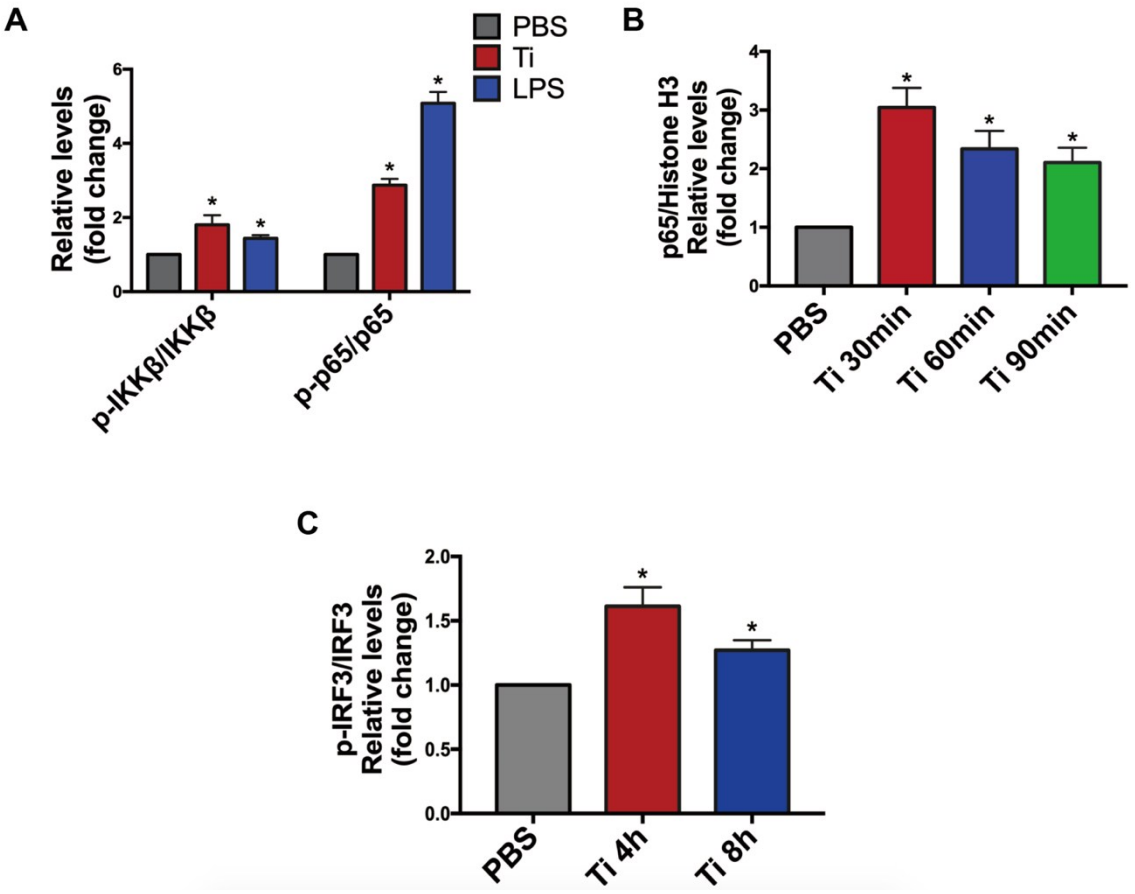

Fig. S2 TiPs induce the activation of NF-κB signaling pathway and phosphorylation of IRF-3 in BMDMs. (A) Quantitative analysis of Western blot results in Fig. 2A. (B) Quantitative analysis of Western blot results in Fig. 2B. (C) Quantitative analysis of Western blot results in Fig. 2D. *P<0.05. Statistical significance was determined by one-way ANOVA with Fisher's LSD test. All data are shown as the mean±SD. The assays were performed at least three times for each sample.

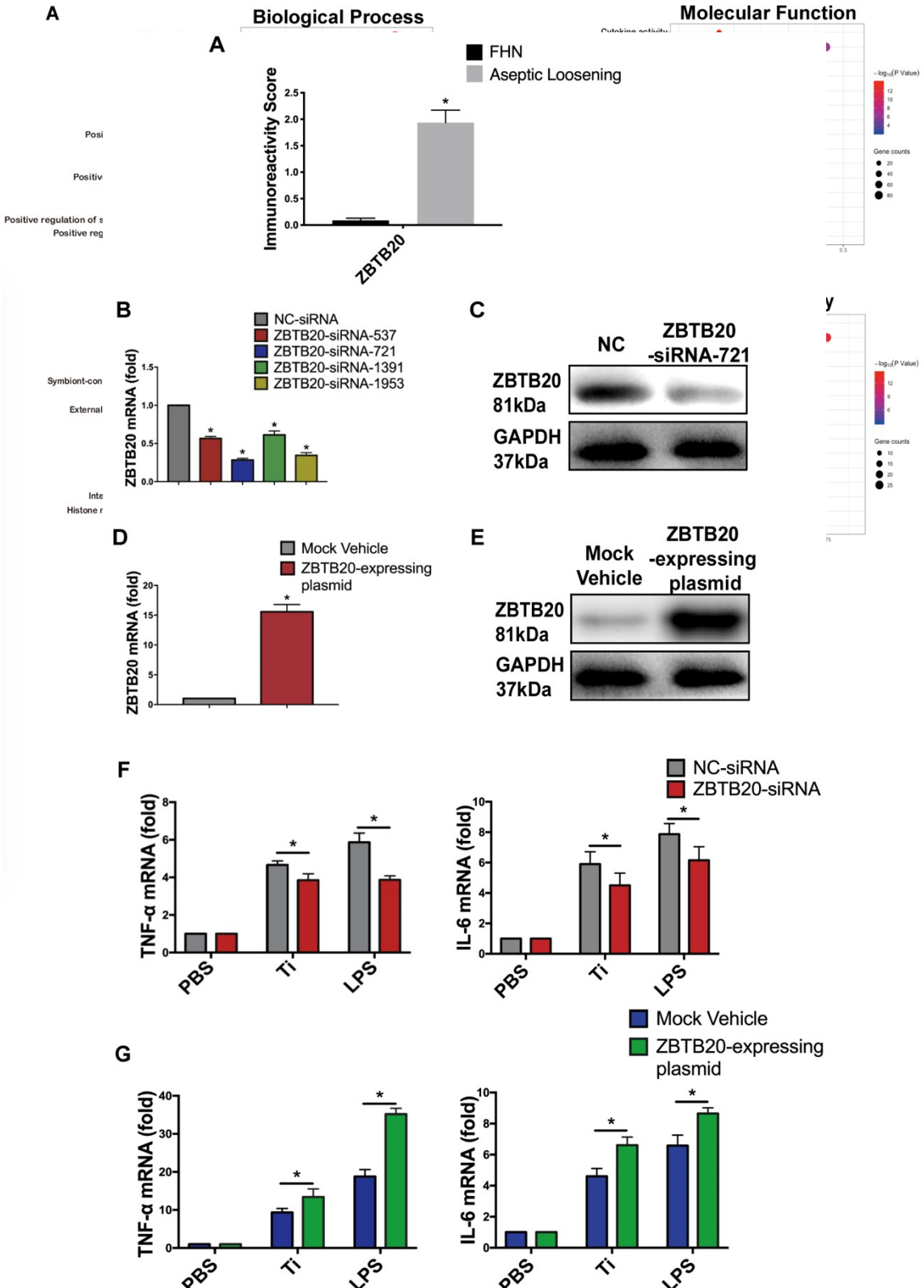

Fig. S3 RNA-seq analysis of RAW264.7 macrophages. (A) The top 15 significant GO terms and KEGG pathways from GO categories and KEGG database. (B) The four most significant KEGG pathways analysed with GSEA. (C) The specific promoter site ZBTB20 specifically bounds to.

Fig. S4 ZBTB20 positively regulates BMDMs' inflammatory response induced by TiPs. (A) The immunoreactivity score of ZBTB20 in specimens from AL and FHN patients. (B, C) ZBTB20-siRNA diminished the mRNA and protein expression of ZBTB20 in BMDMs. (D, E) ZBTB20-expressing plasmid obviously increased the mRNA and protein expression of ZBTB20 in BMDMs. (F) ZBTB20 knockdown reduced the mRNA level of TNF-α and IL-6 induced by Ti0.2 in BMDMs. (G) ZBTB20 overexpression increased the mRNA level of TNF-α and IL-6 induced by Ti0.2 in BMDMs. *P<0.05. Two-sided Student's t-test was utilized in Fig. S4A, D, F, G. One-way ANOVA with Fisher's

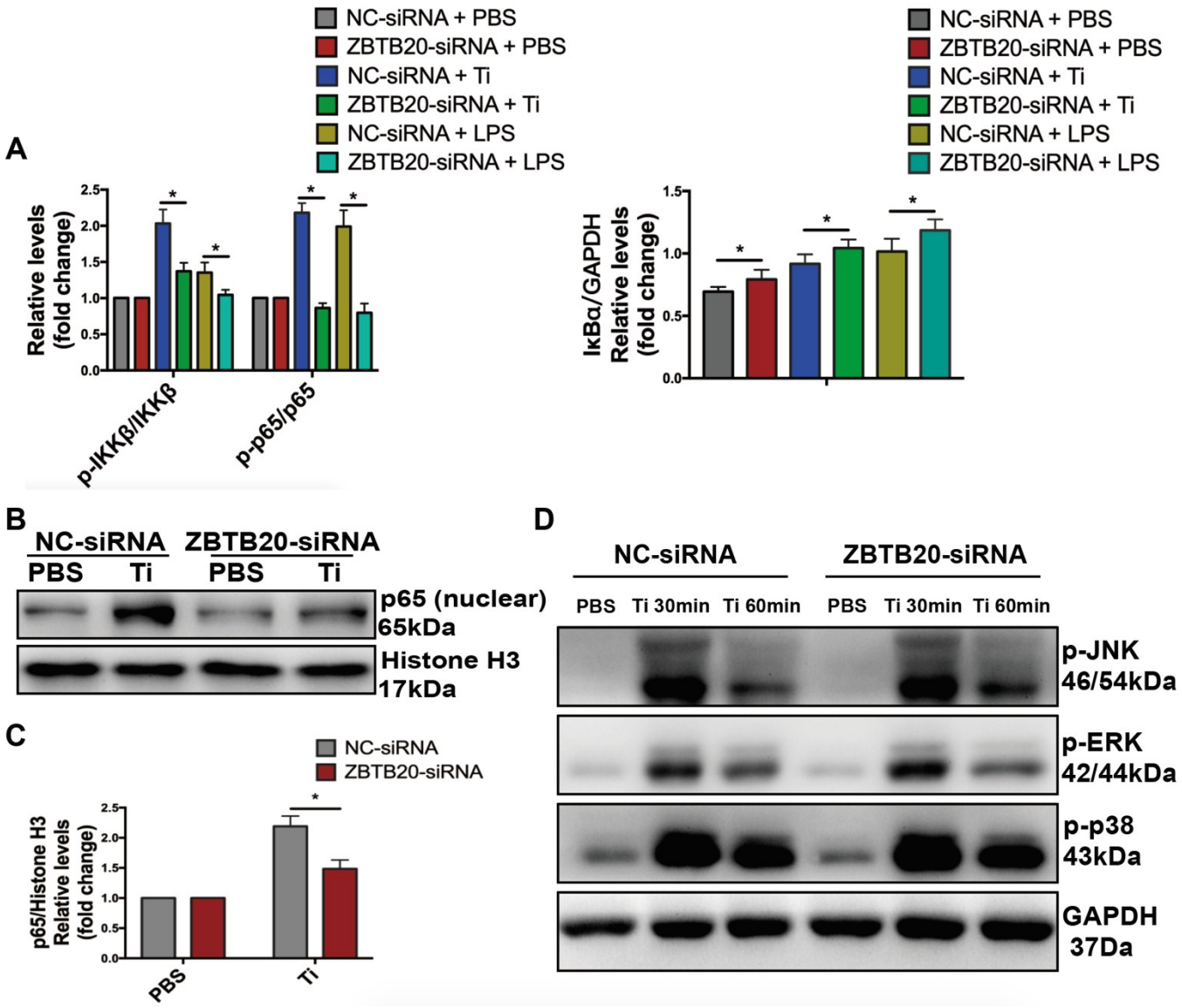

Fig. S5 ZBTB20 positively regulates TiPs-induced NF-κB pathway activation but not MAPK pathway. (A) Quantitative analysis of Western blot results in Fig. 5A. (B, C) The nuclear protein of p65 induced by Ti0.2 was reduced in ZBTB20-knockdown BMDMs. (D) The knockdown of ZBTB20 had no effect on TiPs-induced MAPK pathway activation. *P<0.05. Statistical significance was determined by two-sided Student's t-test. All data are shown as the mean±SD. The assays were performed at least three times for each sample.

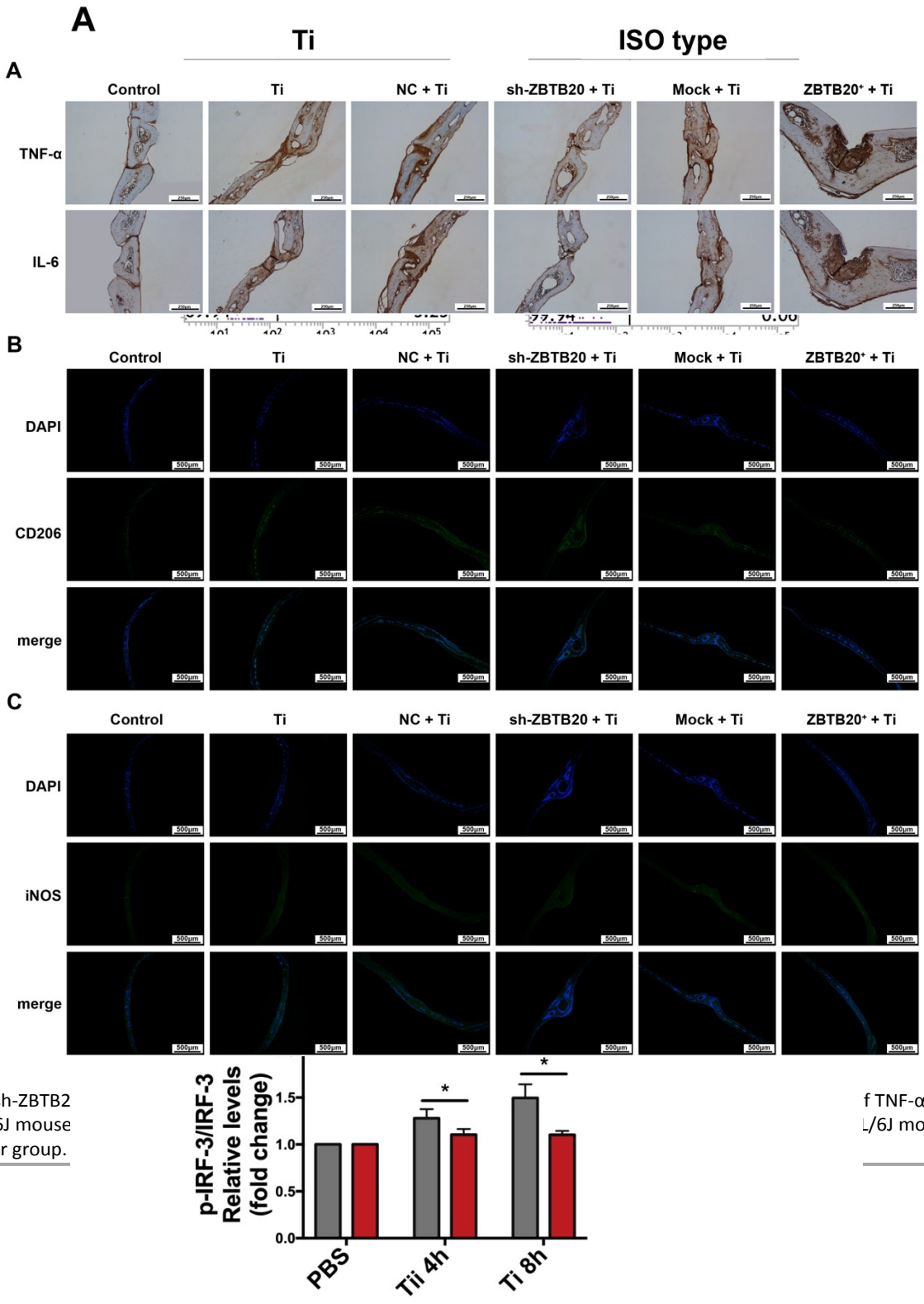

Fig. S7 sh-ZBTB2 f TNF-α and IL-6 in C57BL/6J mouse L/6J mouse calvarias. n = 8 per group.

Fig. S6 ZBTB20 positively regulated TiPs-induced M1 polarization and phosphorylation of IRF3. (A) An isotype control in the flow cytometry assay. (B) Flow cytometry showed that ZBTB20 knockdown resulted in a decrease in M1 polarization and an increase in M2 polarization induced by TiPs. (C) Real-time PCR showed that ZBTB20 knockdown resulted in a decrease in M1 polarization as well as an increase in M2 polarization induced by TiPs. (D) Quantitative analysis of Western blot results in Fig. 6B. *P<0.05. Statistical significance was determined by two-sided Student's t-test. All data are shown as the mean±SD. The assays were performed at least three times for each sample.