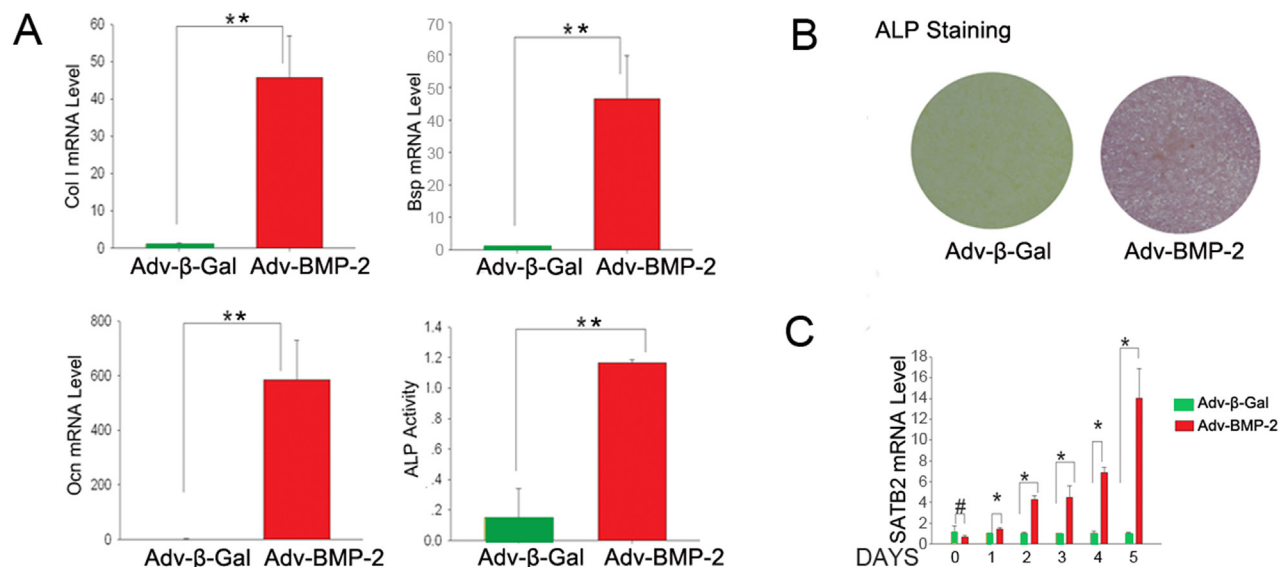
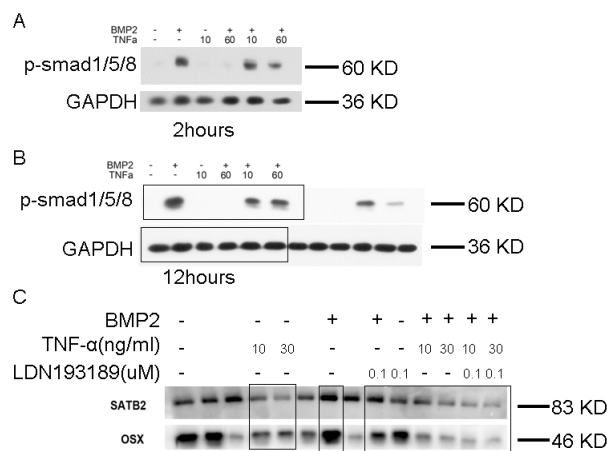


TNF- α inhibits SATB2 expression and osteoblast differentiation through NF- κ B and MAPK pathways

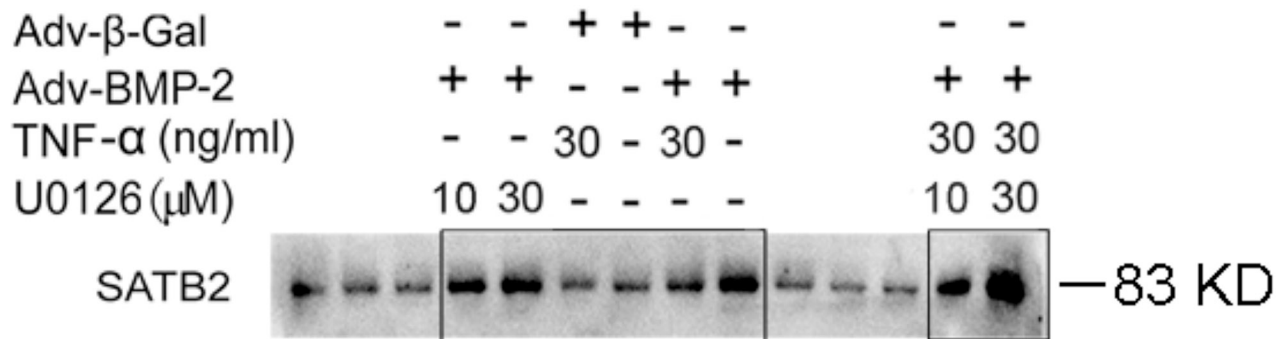
SUPPLEMENTARY MATERIALS



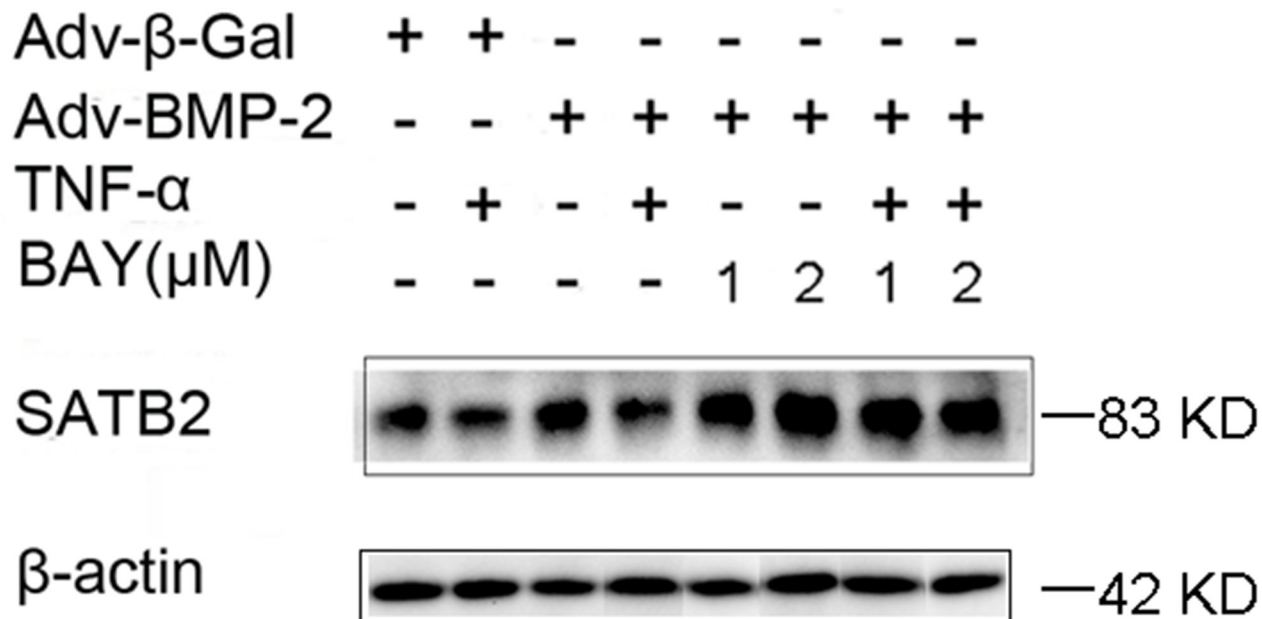
Supplementary Figure 1: Adv-BMP2 induces C2C12 cells to differentiate into osteoblasts and promotes SATB2 expression. The C2C12 cells were treated with Adv-BMP2 (150 pfu/cell) or Adv- β -Gal (150 pfu/cell) for five days (**A**) The *Col I*, *Bsp*, and *Ocn* mRNA levels were examined. The ALP activity was normalized to the Adv- β -Gal group, and (**B**) ALP staining was performed, (**C**) The C2C12 cells were treated with Adv-BMP2 (150 pfu/cell) or Adv- β -Gal (150 pfu/cell) for various time points and the *SATB2* gene expressions were assessed via real-time PCR. The fold change was calculated as follows: (relative *Col I*, *Bsp*, *Ocn*, *SATB2* levels in Adv-BMP2-treated sample) / (relative *Col I*, *Bsp*, and *Ocn* levels in Adv- β -Gal-treated sample), the data were presented as mean \pm S.D. ($n = 3$; * $p < 0.05$; ** $p < 0.01$).



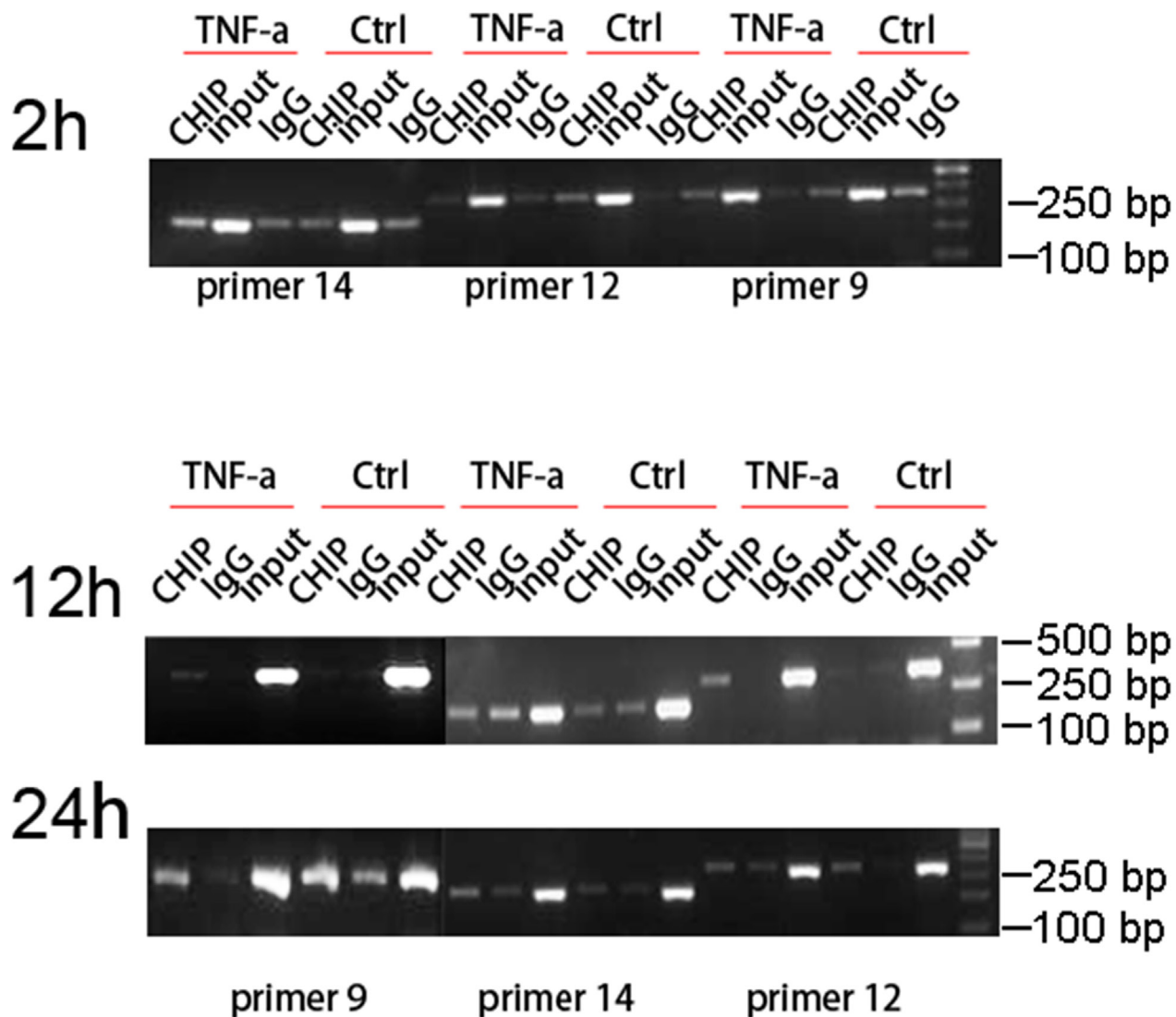
Supplementary Figure 2: TNF- α inhibits SATB2 expression by inhibiting the smad1/5/8 signaling pathway. Uncropped western blot images corresponding to Figure 4(A), Figure 4(C) and Figure 4(E).



Supplementary Figure 3: TNF-α inhibits SATB2 expression by activating the MAPK signaling pathway. Uncropped western blot images corresponding to Figure 5C.



Supplementary Figure 4: TNF-α inhibits SATB2 expression by activating NF-κB. Uncropped western blot images corresponding to Figure 6E.



Supplementary Figure 5: TNF-α induced NF-κB directly interacts with SATB2 gene promoter to inhibit its expression. Uncropped RT-PCR images corresponding to Figure 7D.