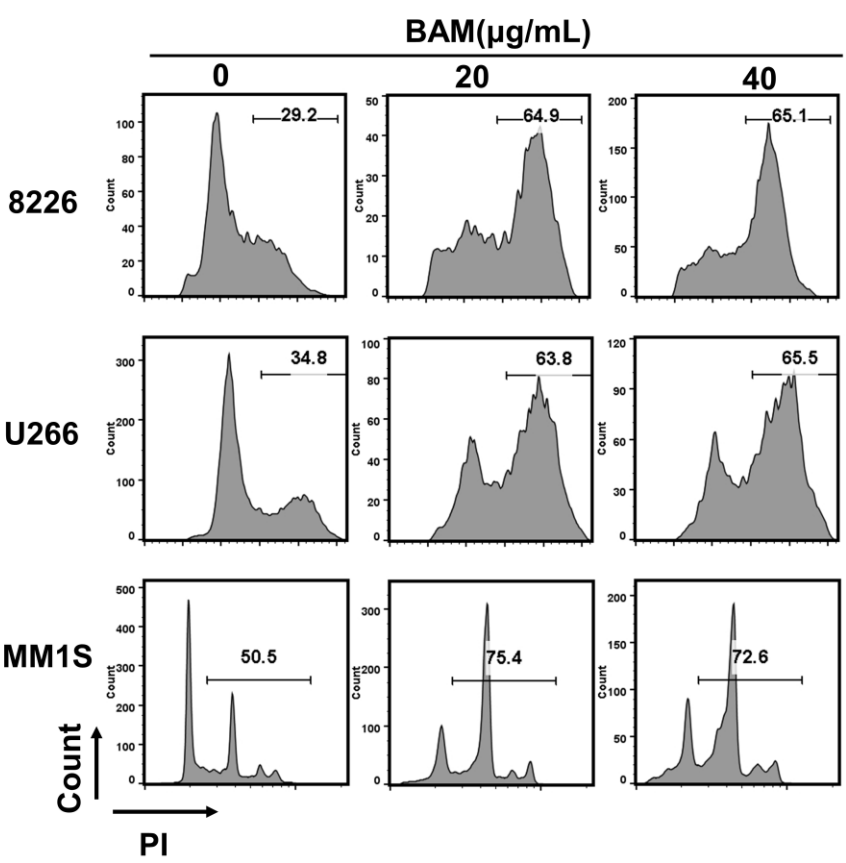
A

Supplementary table 1. The IC_{50} values of boanmycin in three MM cells

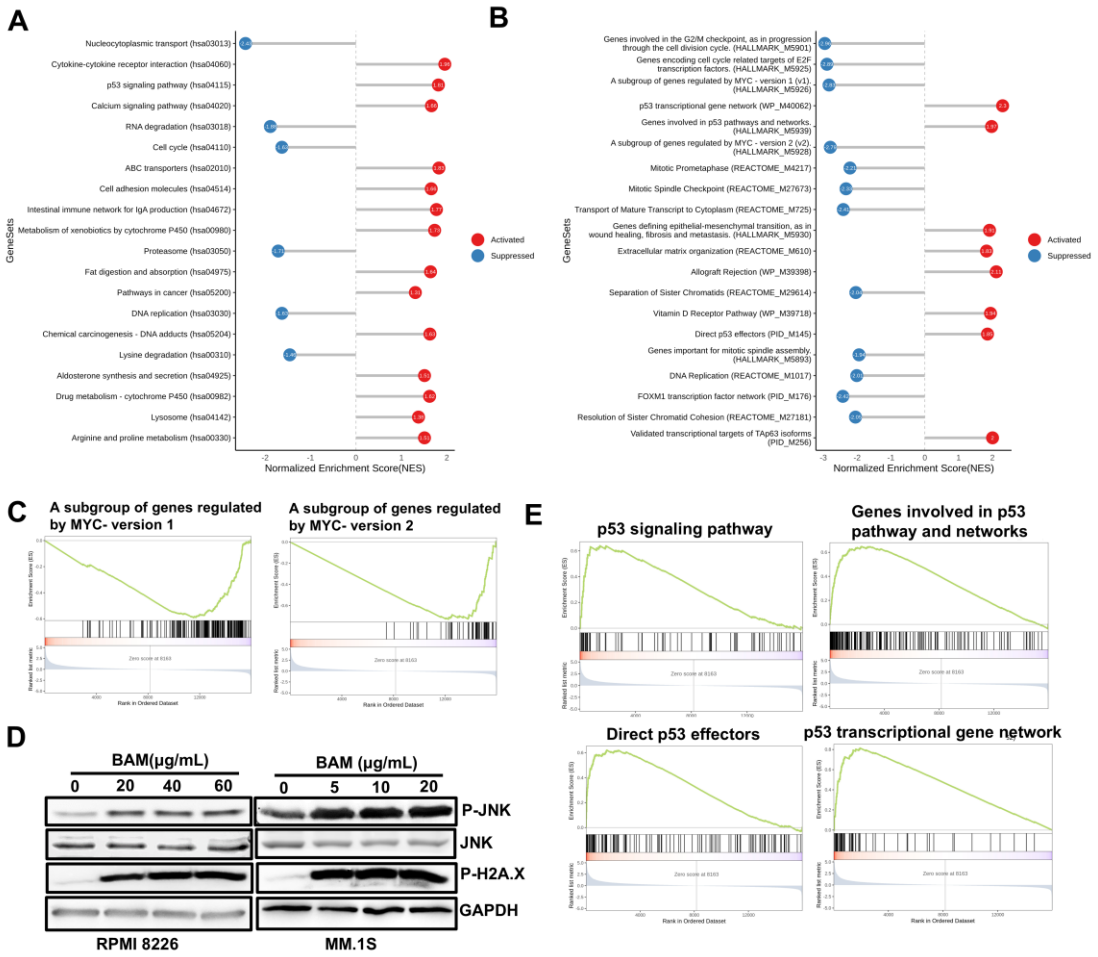
Cells	IC_{50} (μg/mL)
RPMI 8226	17.49
U266	29.05
MM1S	13.89

B



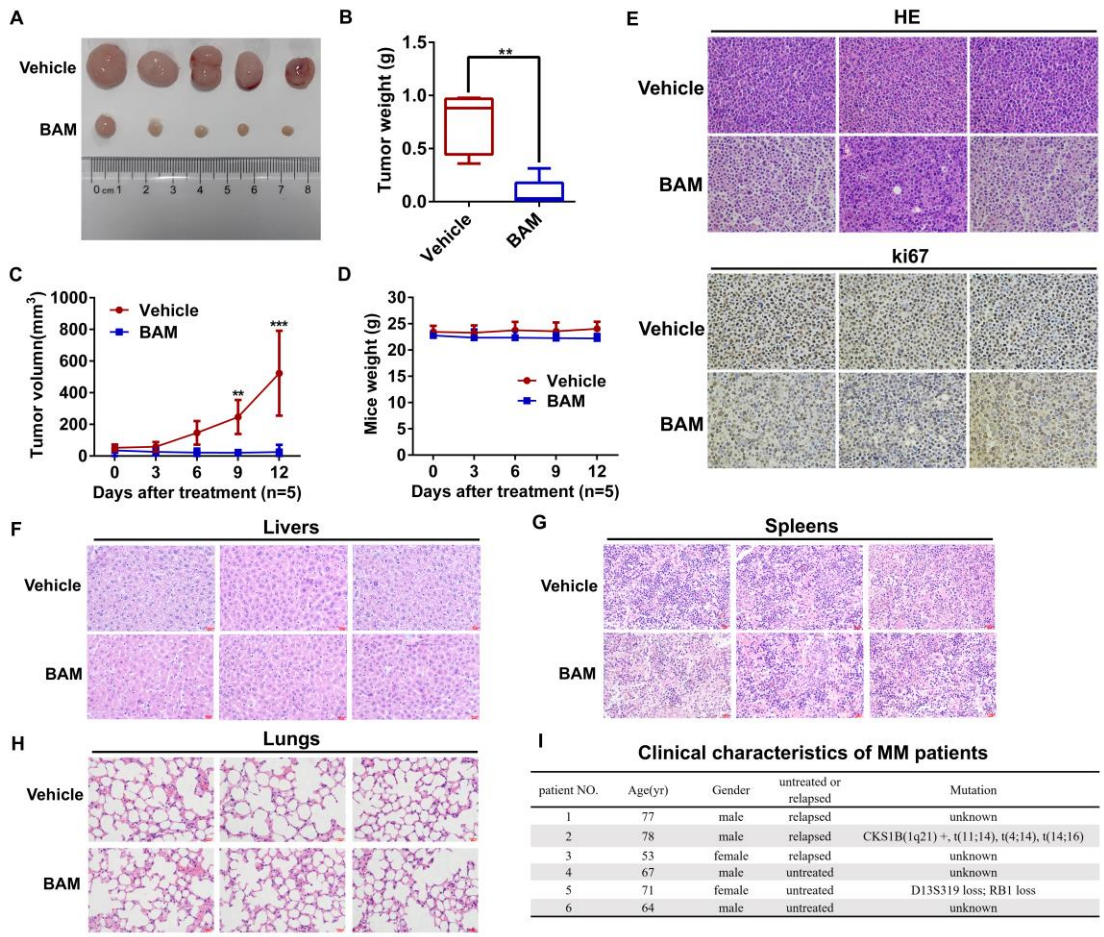
Supplementary Figure 1. The IC_{50} values of boanmycin on three MM cell lines and cell cycle analysis.

(A) The IC_{50} values of boanmycin on three MM cell lines. (B) The cell cycle was analyzed by flow cytometry after treating MM cells with indicated concentrations of boanmycin for 48 h.



Supplementary Figure 2. Bioinformatics analysis of boanmycin-induced signaling pathway changes in multiple myeloma cells.

(A) A GSEA lollipop map showing the activated and suppressed signaling pathways was presented (based on the KEGG database). (B) A GSEA lollipop map showing the activated and suppressed signaling pathways was presented (based on the HALL marker database). (C) GSEA revealed the suppression of the MYC signal after treatment with boanmycin. (D) Western blot analysis of p-JNK, JNK, and γ-H2AX after treating MM cells with indicated concentrations of boanmycin for 48 h. GAPDH was used as a control. (E) The GSEA results demonstrated the upregulation of the P53 signaling pathway.



I

Clinical characteristics of MM patients

patient NO.	Age(yr)	Gender	untreated or relapsed	Mutation
1	77	male	relapsed	unknown
2	78	male	relapsed	CKS1B(1q21) +, t(11;14), t(4;14), t(14;16)
3	53	female	relapsed	unknown
4	67	male	untreated	unknown
5	71	female	untreated	D13S319 loss; RB1 loss
6	64	male	untreated	unknown

Supplementary Figure 3. Boanmycin inhibits the growth of multiple myeloma cells in mouse xenograft models and clinical characteristics of MM patients.

(A) NOD-SCID mice bearing MM.1S xenografts were treated with vehicle (PBS) or 10 mg/kg boanmycin every three days for 12 days. Photographs of tumors separated from animals are presented (n=5 mice per group). (B) The tumor weights of sacrificed animals were analyzed and plotted (n=5 mice per group). (C) The tumor volume was monitored and plotted over the indicated time (n=5 mice per group). (D) Body weight change was plotted versus time (n=5 mice per group). (E) Hematoxylin and eosin (HE) staining and Ki-67 immunohistochemical staining of the xenografts were performed (n=3 mice per group). (F) HE staining of liver tissues from the vehicle and boanmycin-treated groups (n=3 mice per group). (G) HE staining of spleen tissues from the vehicle and boanmycin-treated groups (n=3 mice per group). (H) HE staining of lung tissues from the vehicle and boanmycin-treated groups (n=3 mice per group). (I) Clinical characteristics of MM patients. (**p < 0.01, ***p < 0.001 vs.

vehicle).