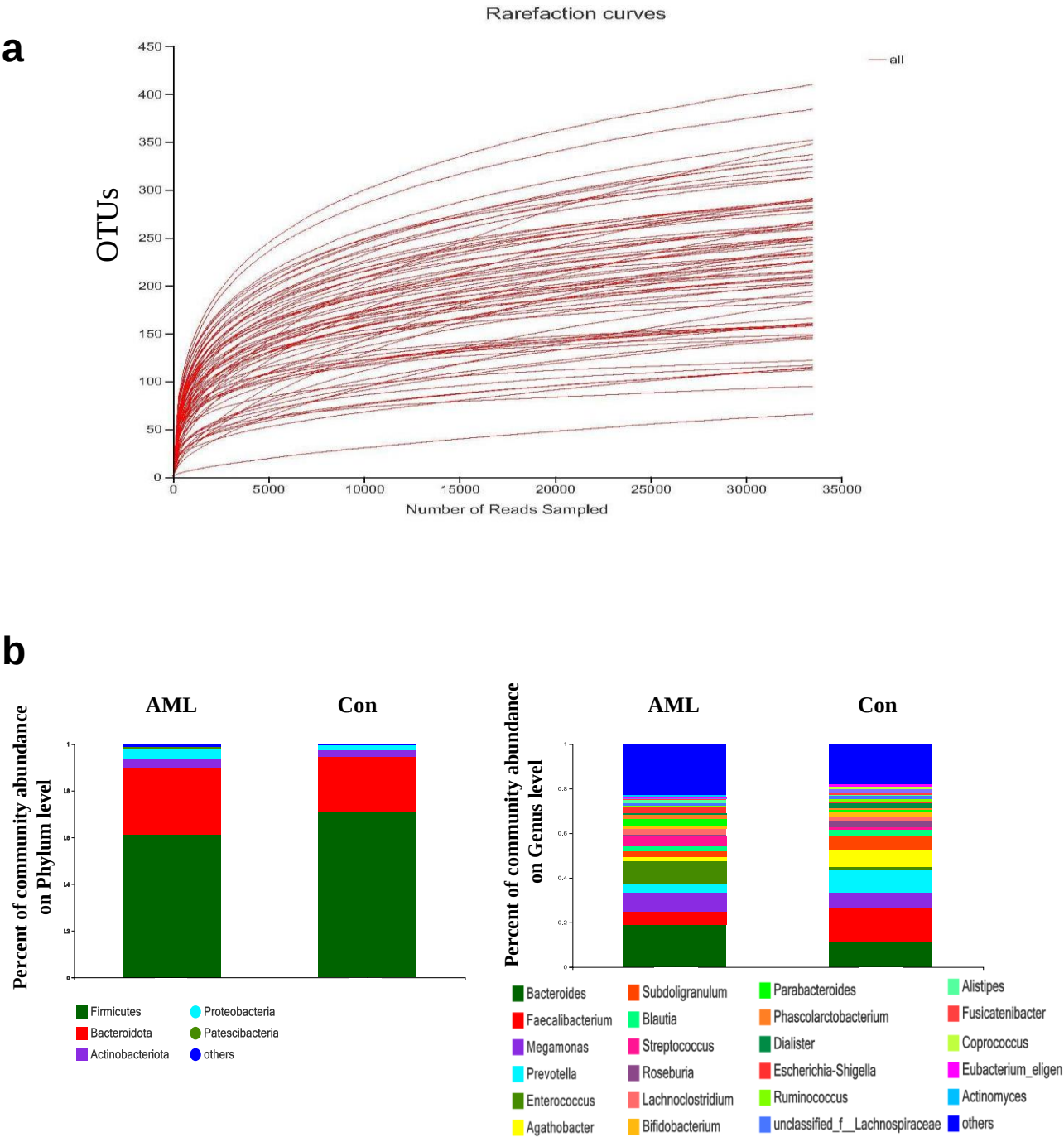


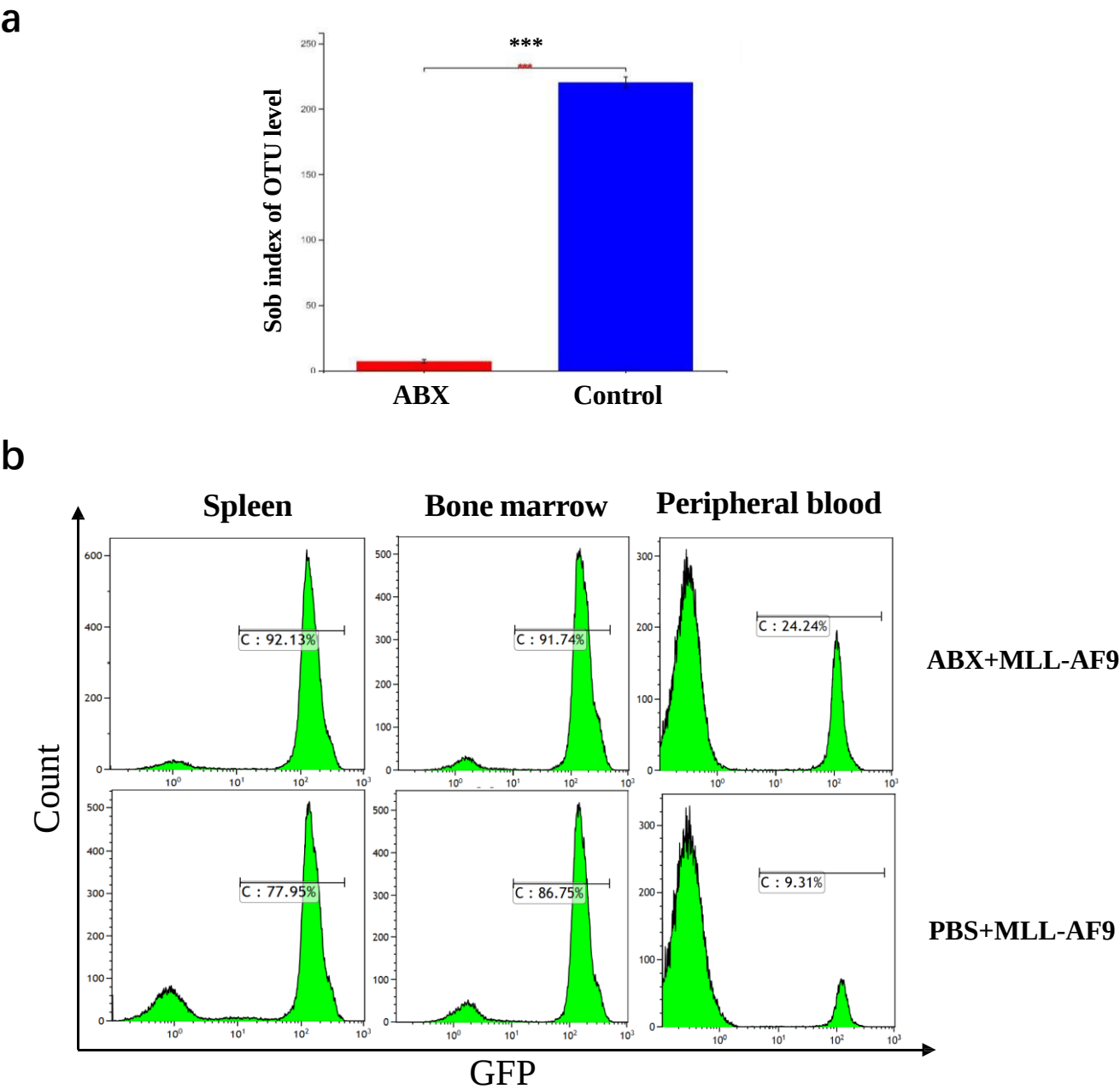
Supplementary figure 1



Supplementary figure 1

- (a) Rarefaction curves of 72 samples from AML patients and healthy controls.
- (b) The difference in abundances of phylum and genus between the AML and control groups.

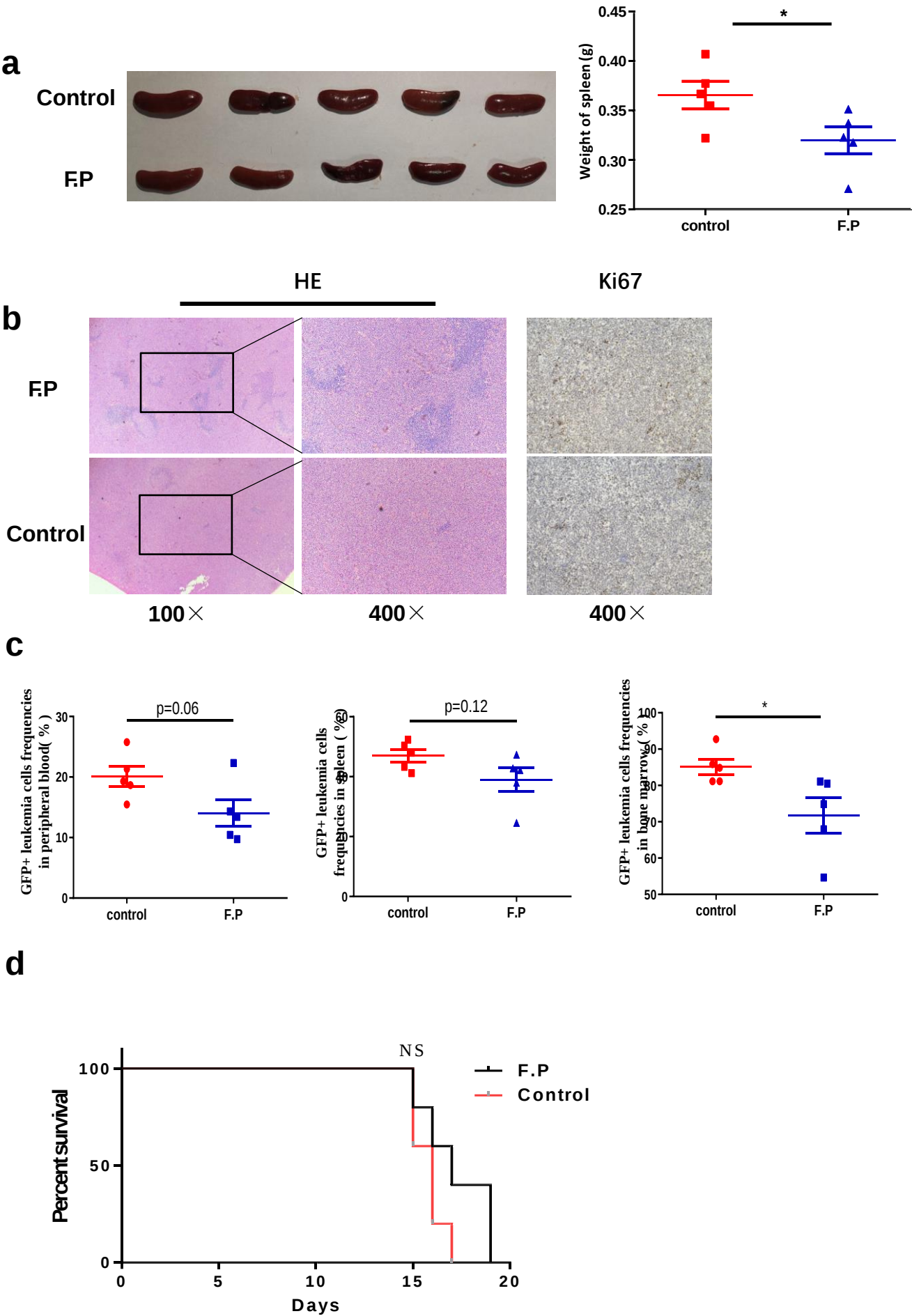
Supplementary figure 2



Supplementary figure 2

(a) The diversity and abundance of the gut microbiota in ABX-treated and control mice. Unpaired t-test was used for comparing the Sob index. (b) The representative FACS graphs of the leukemia cells (GFP+ cells) in spleen, peripheral blood and bone marrow from ABX AML mice and control PBS AML mice.

Supplementary figure 3



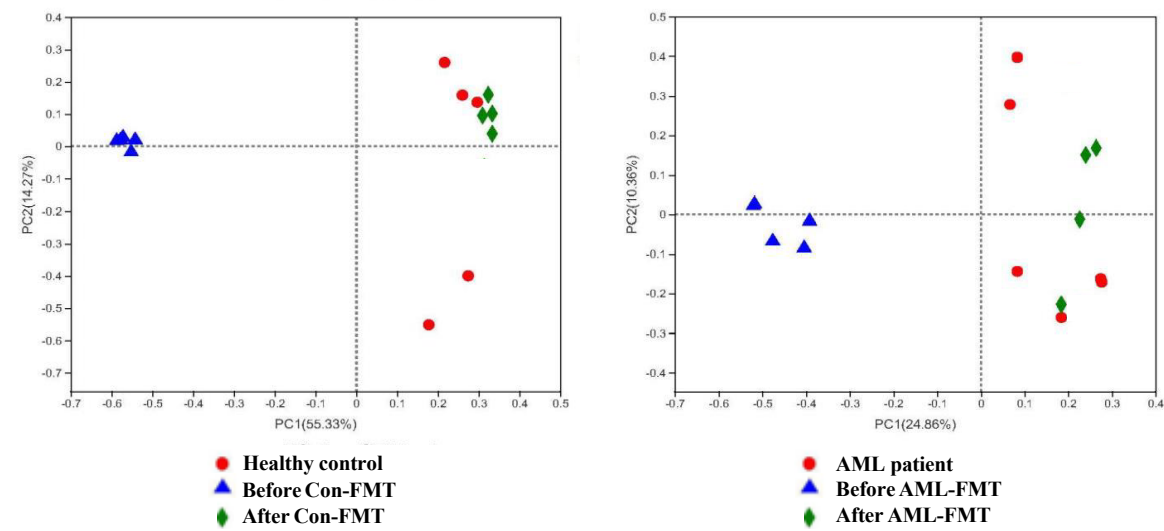
Supplementary figure 3

(a) Photograph of spleens from F.P treated AML mice (n=5) and control AML mice (n=5).

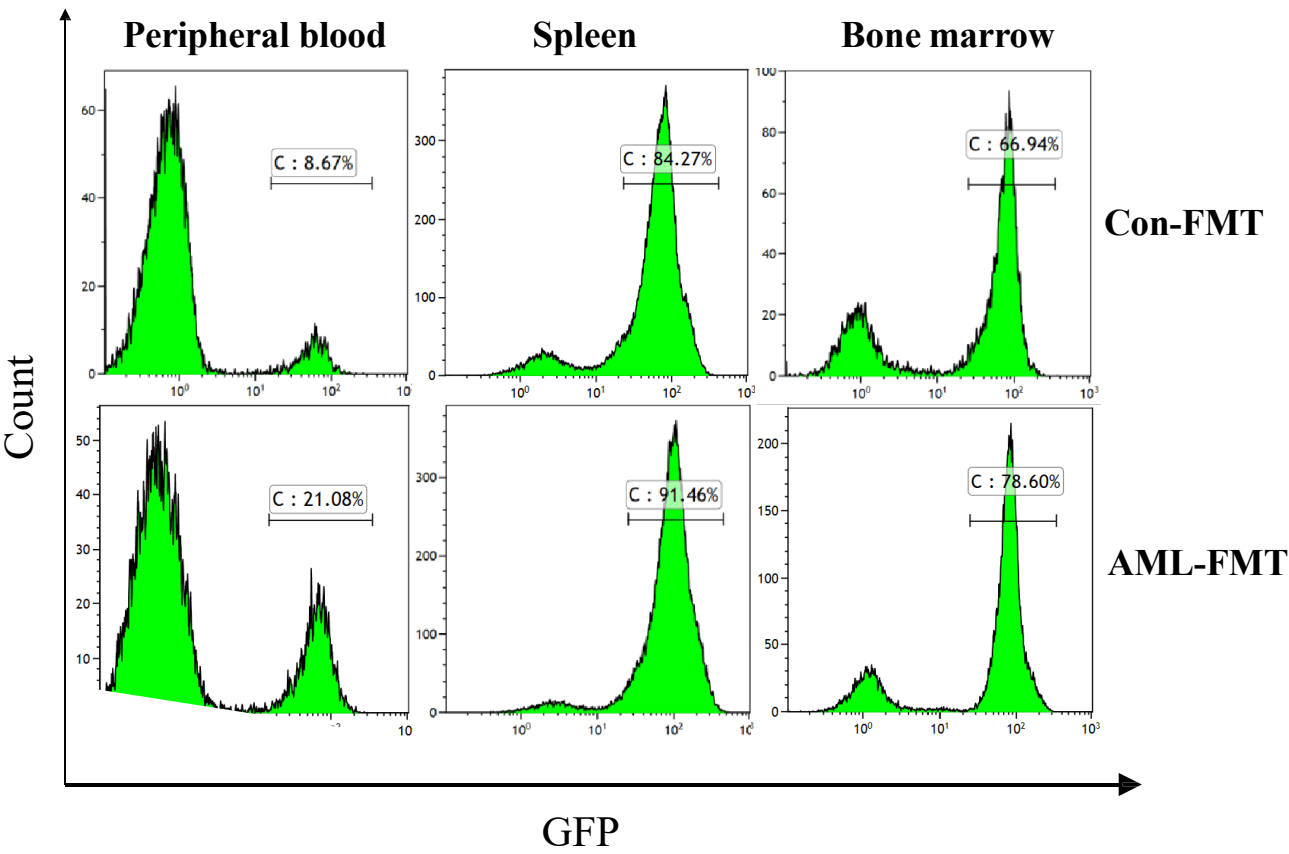
(b) HE histopathology sections and Ki67 immunohistochemical staining of a representative spleen, F.P treated group and control group. All microscopic analyses were performed (original magnification $\times 100$ or $\times 400$). (c) The leukemia cells (GFP+ cells) in the spleen, peripheral blood and bone marrow from F.P treated AML mice (n=5) and control AML mice (n=5). (d) Kaplan-Meier survival curve of AML mice (n=5 per group).

Supplementary figure 4

a



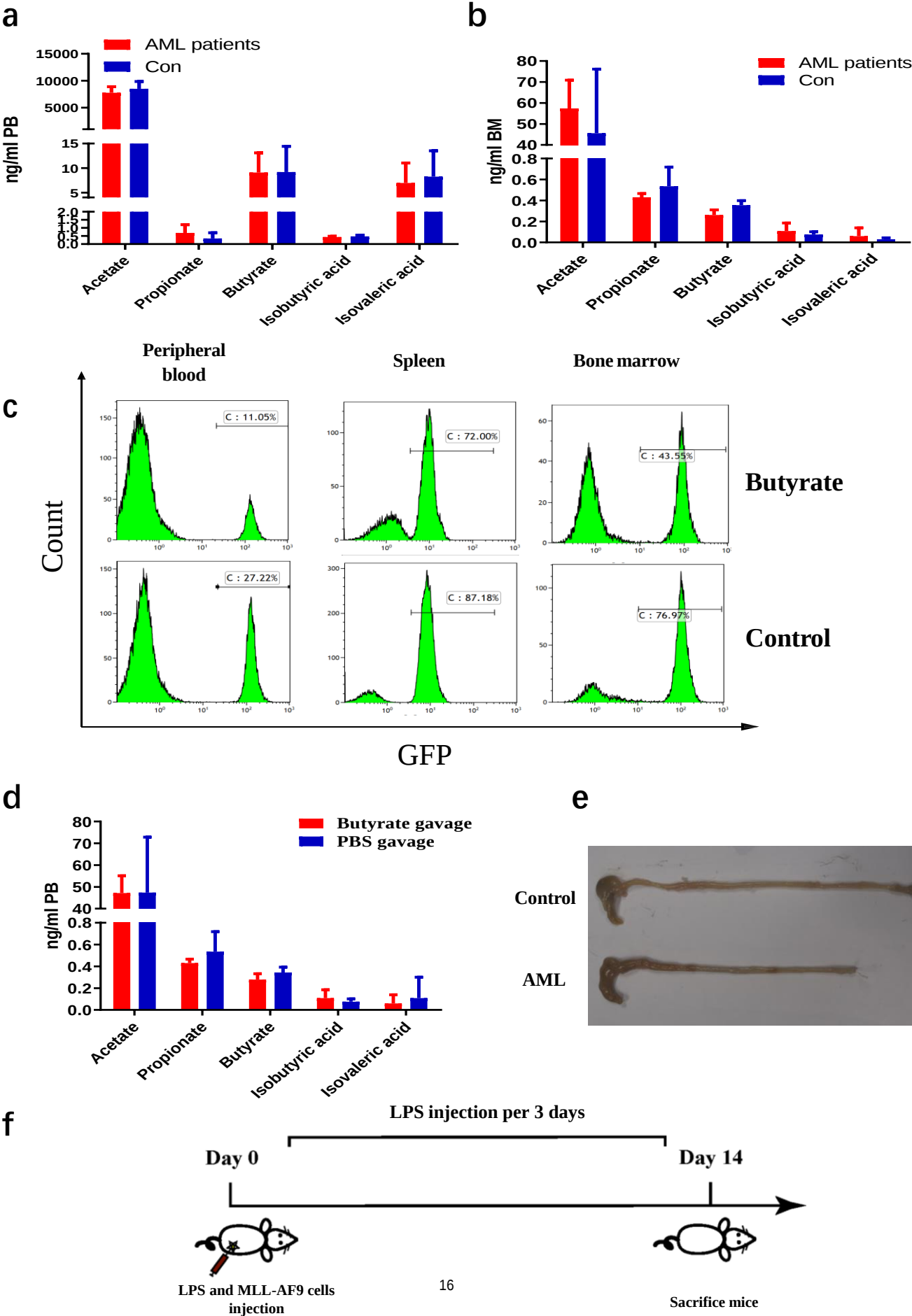
b



Supplementary figure 4

(a) PCoA of a Weighted UniFrac distance analysis. (b) The representative FACS graphs of the leukemia cells (GFP⁺ cells) in spleen, peripheral blood and bone marrow.

Supplementary figure 5



Supplementary figure 5

(a) The concentrations of SCFAs in peripheral blood of AML patients (n=22) and controls (n=22). (b) The concentrations of SCFAs in bone marrow of AML patients (n=22) and controls (n=22). (c) The representative FACS graphs of the leukemia cells (GFP⁺ cells) in the spleen, peripheral blood and bone marrow. (d) The concentrations of SCFAs in blood samples of butyrate treatment mice (n=5) and controls (n=5). (e) The colon length of AML mice and control mice. (f) The schematic diagram of the mice experimental process including LPS treatment.