



Interaction between intestinal mycobiota and microbiota shapes lung inflammation.

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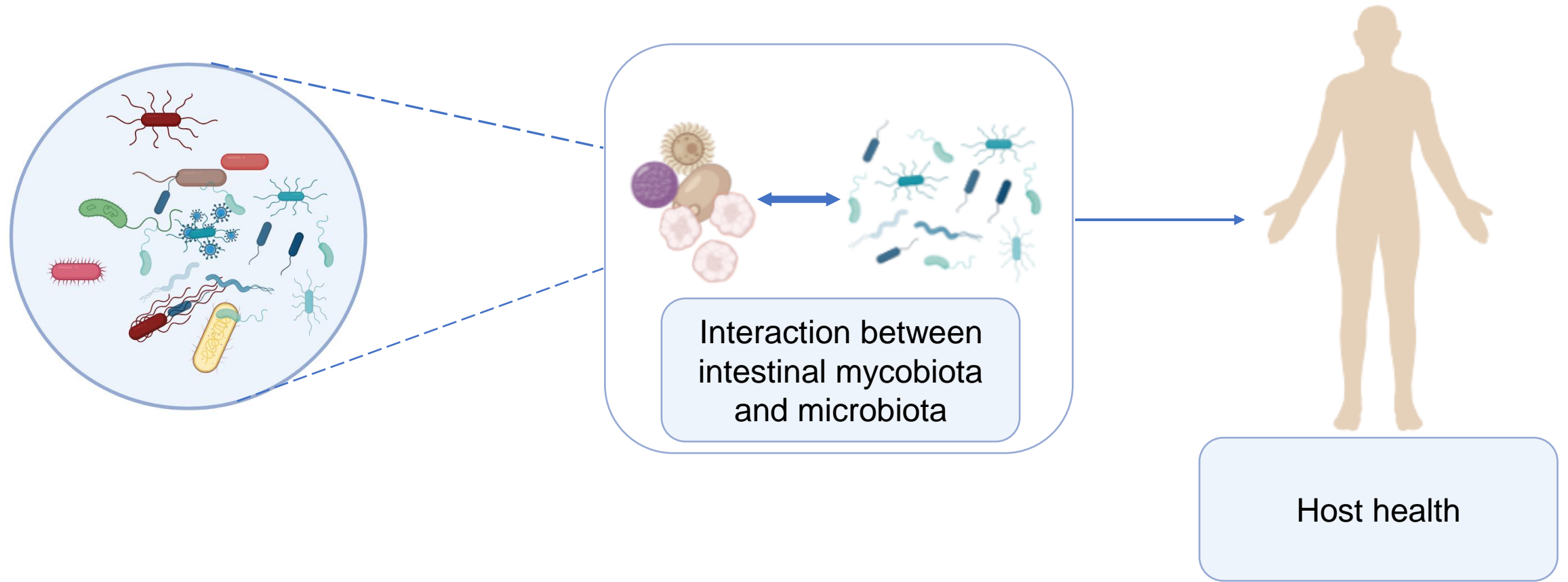


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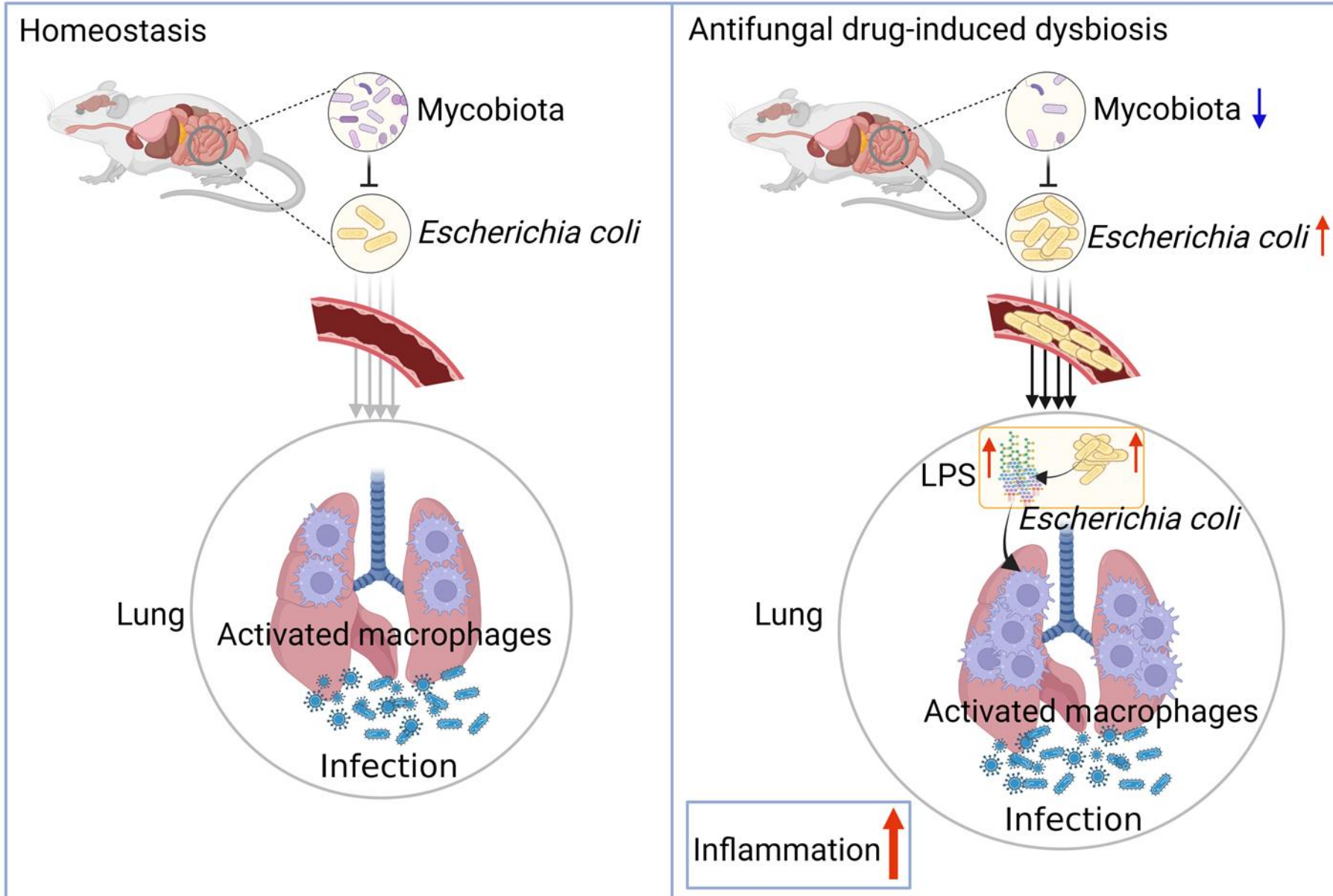


Introduction





Highlights





Dysbiosis of intestinal mycobiota exacerbates lung inflammation during infection

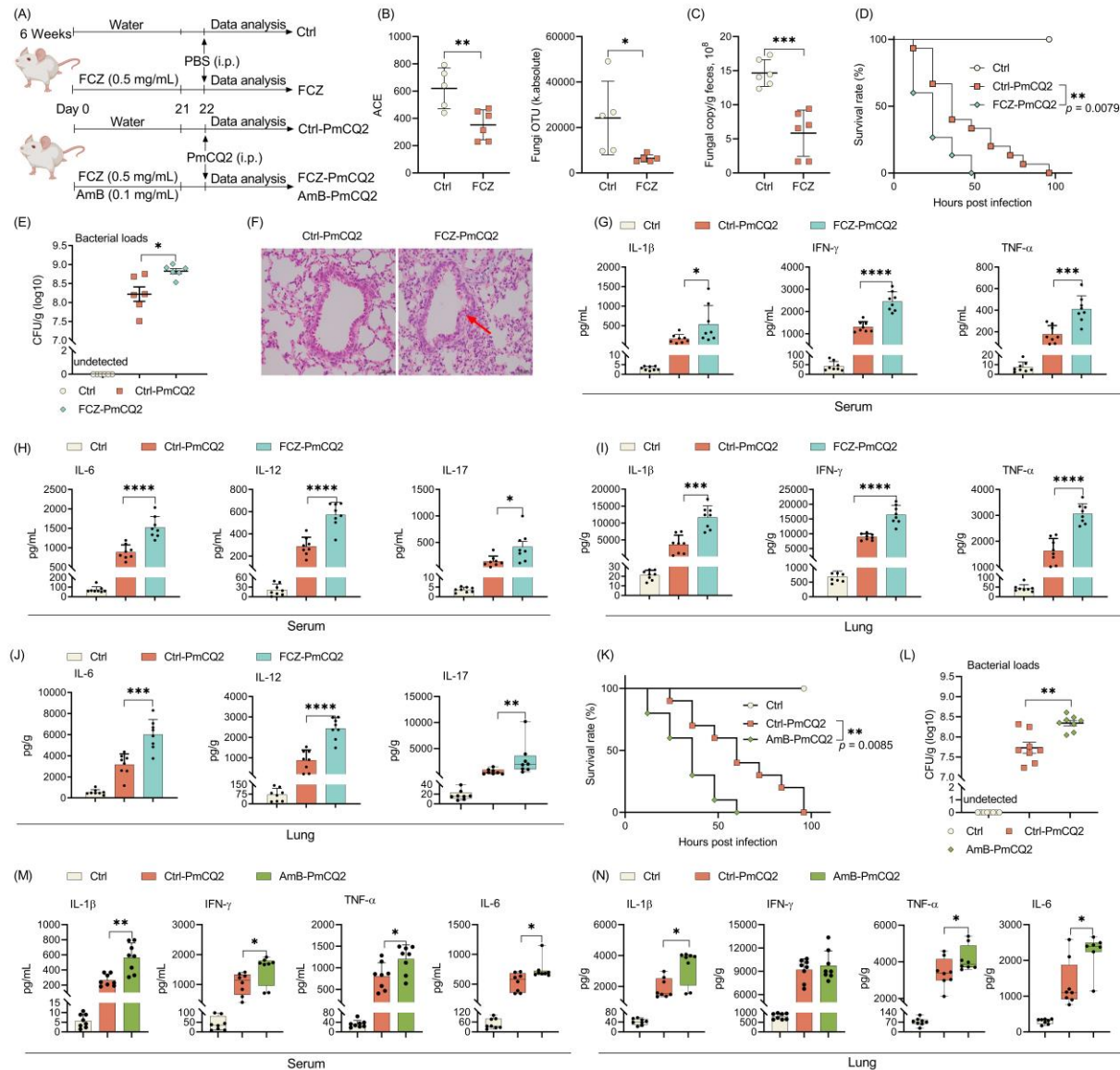


Figure 1. Antifungal drugs aggravate lung inflammation during infection.



Intestinal mycobiota is necessary to control lung inflammation during infection

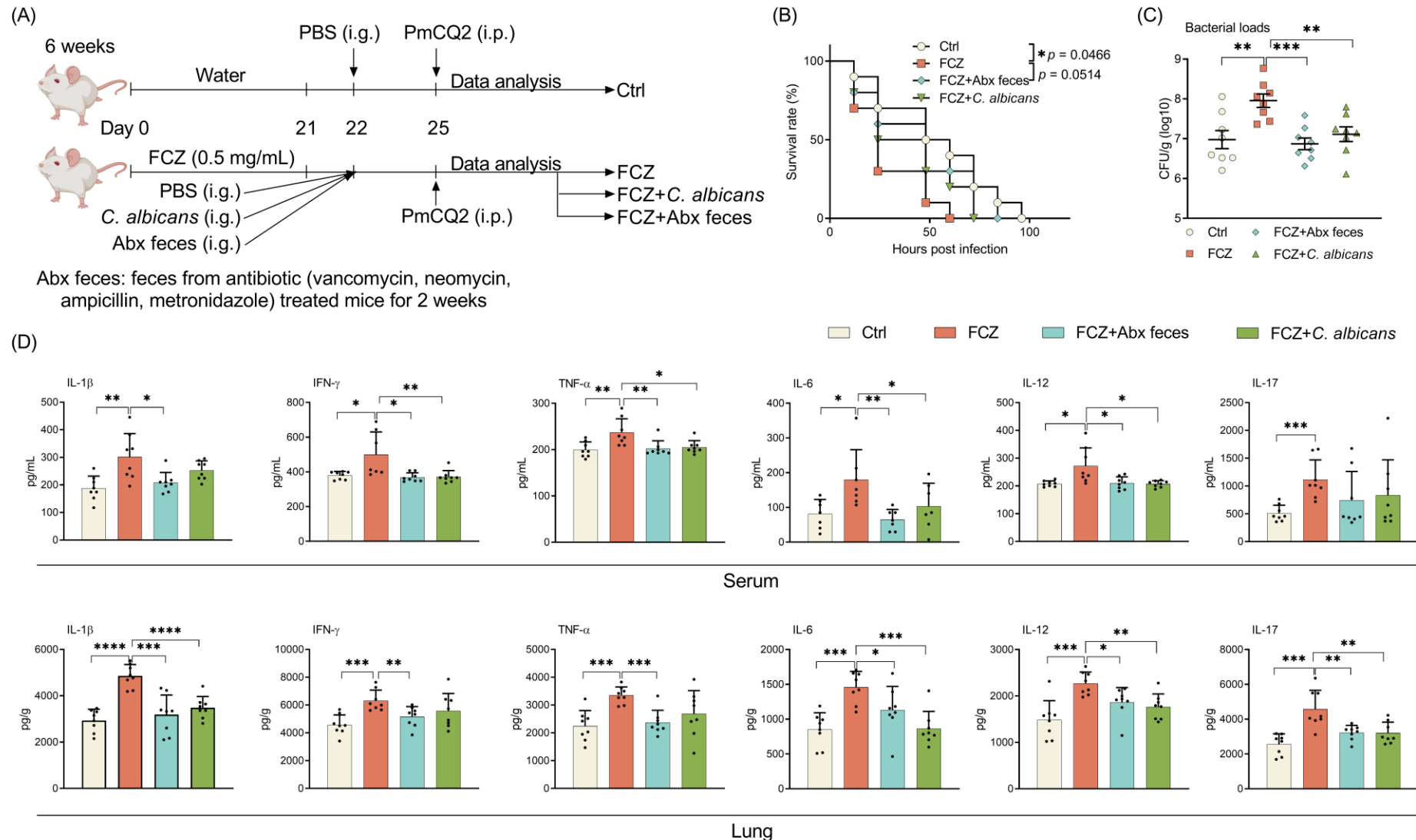


Figure 2. Intestinal mycobiota inoculation relieves lung inflammation during infection.

Dysbiosis of intestinal mycobiota induces *E. coli* expansion and translocation

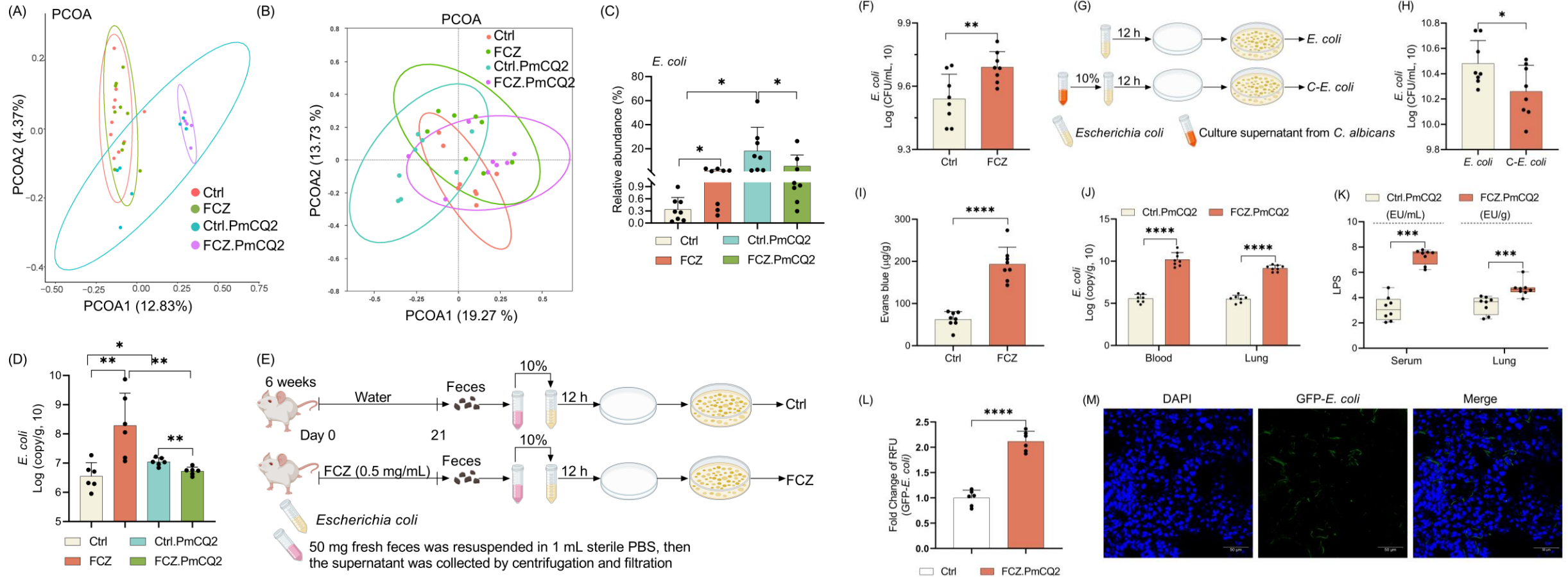


Figure 3. Dysbiosis of intestinal mycobiota promotes expansion of *E. coli*.

Dysbiosis of intestinal mycobiota induces accumulation of macrophages

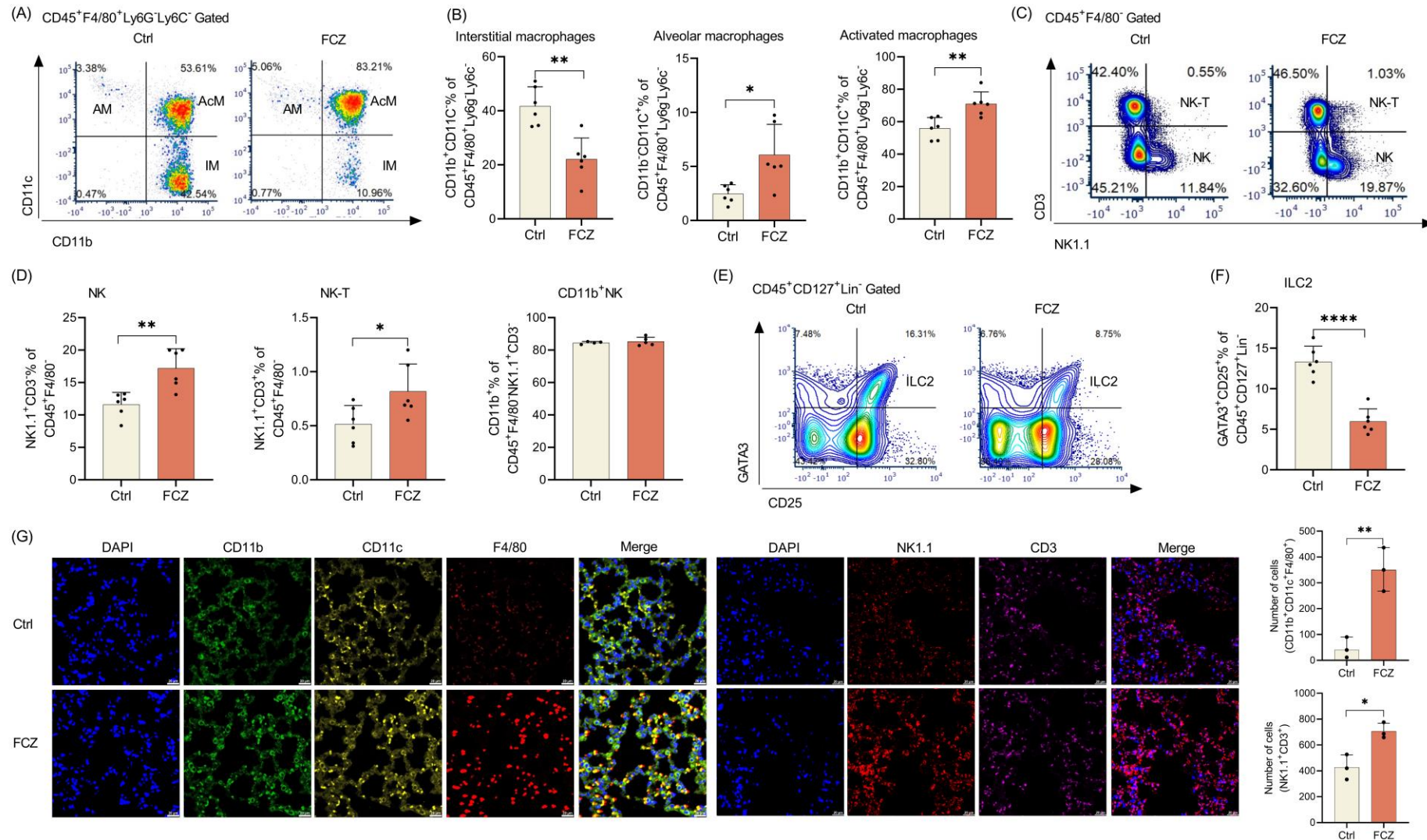


Figure 4. Dysbiosis of intestinal mycobiota induces accumulation of macrophages.



E. coli promotes macrophage pro-inflammatory responses

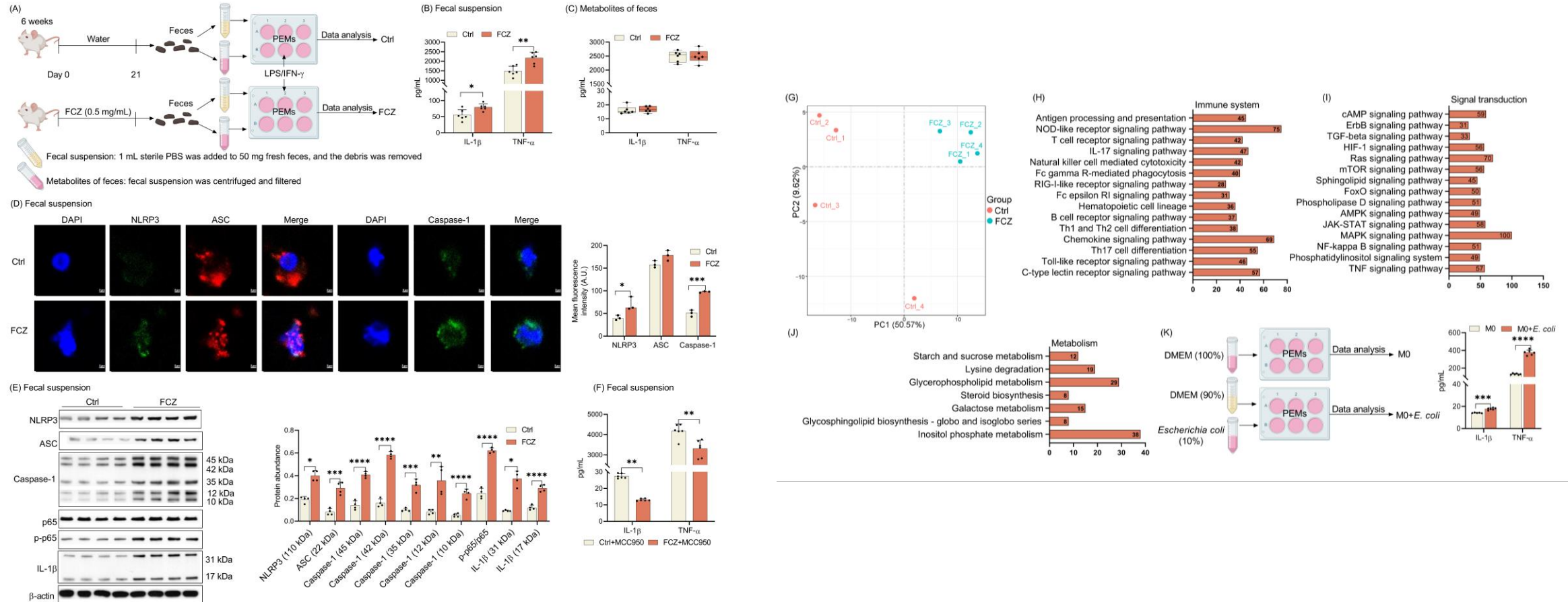


Figure 5. *E. coli* promotes macrophage pro-inflammatory responses.



TLR4 deficiency attenuates lung inflammation induced by mycobiota dysbiosis

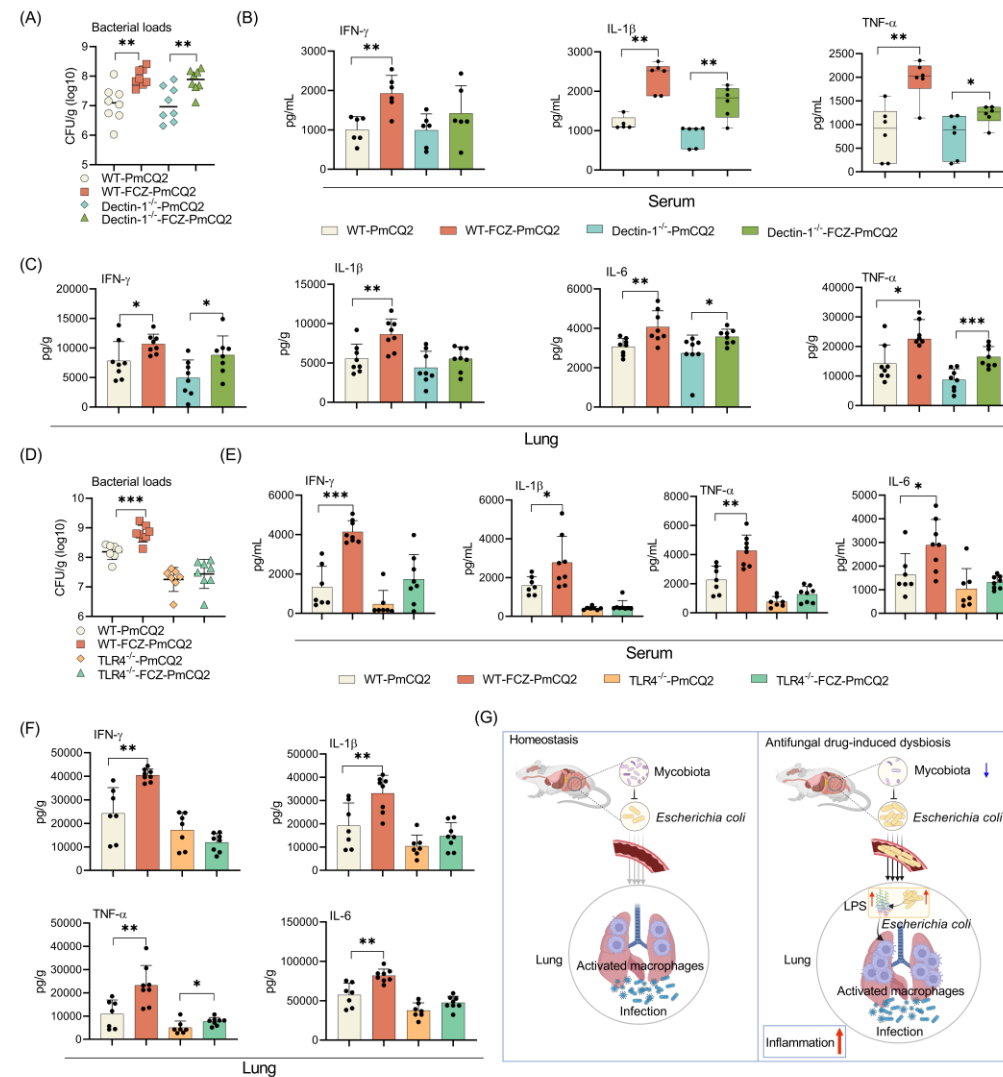


Figure 6. TLR4 deficiency attenuates lung inflammation.



Summary

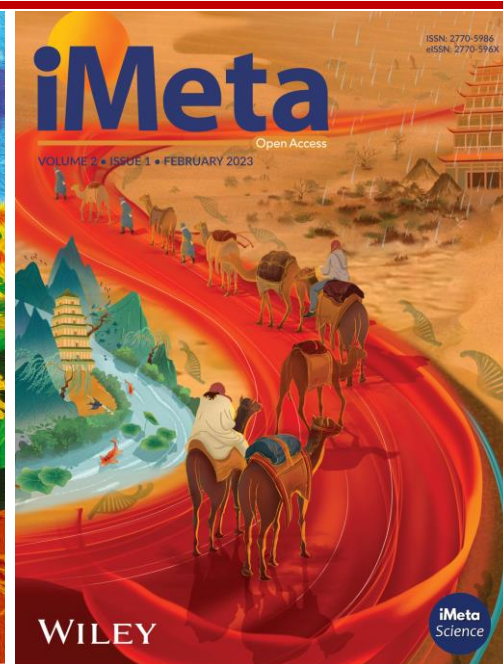
- ❑ In this study, we found that dysbiosis of intestinal fungi induced by antifungal drugs exacerbated lung inflammation during infection.
- ❑ Specifically, dysbiosis of gut mycobiota results in gut *E. coli* overgrowth and translocation to the lung during infection.
- ❑ *E. coli* induces lung accumulation of the CD45⁺F4/80⁺Ly6G⁻Ly6C⁻CD11b⁺CD11c⁺macrophages.
- ❑ The interaction between intestinal mycobiota and commensal bacteria affects host health through the gut-lung axis, offering a potential therapeutic target for ameliorating lung inflammation during infection.

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