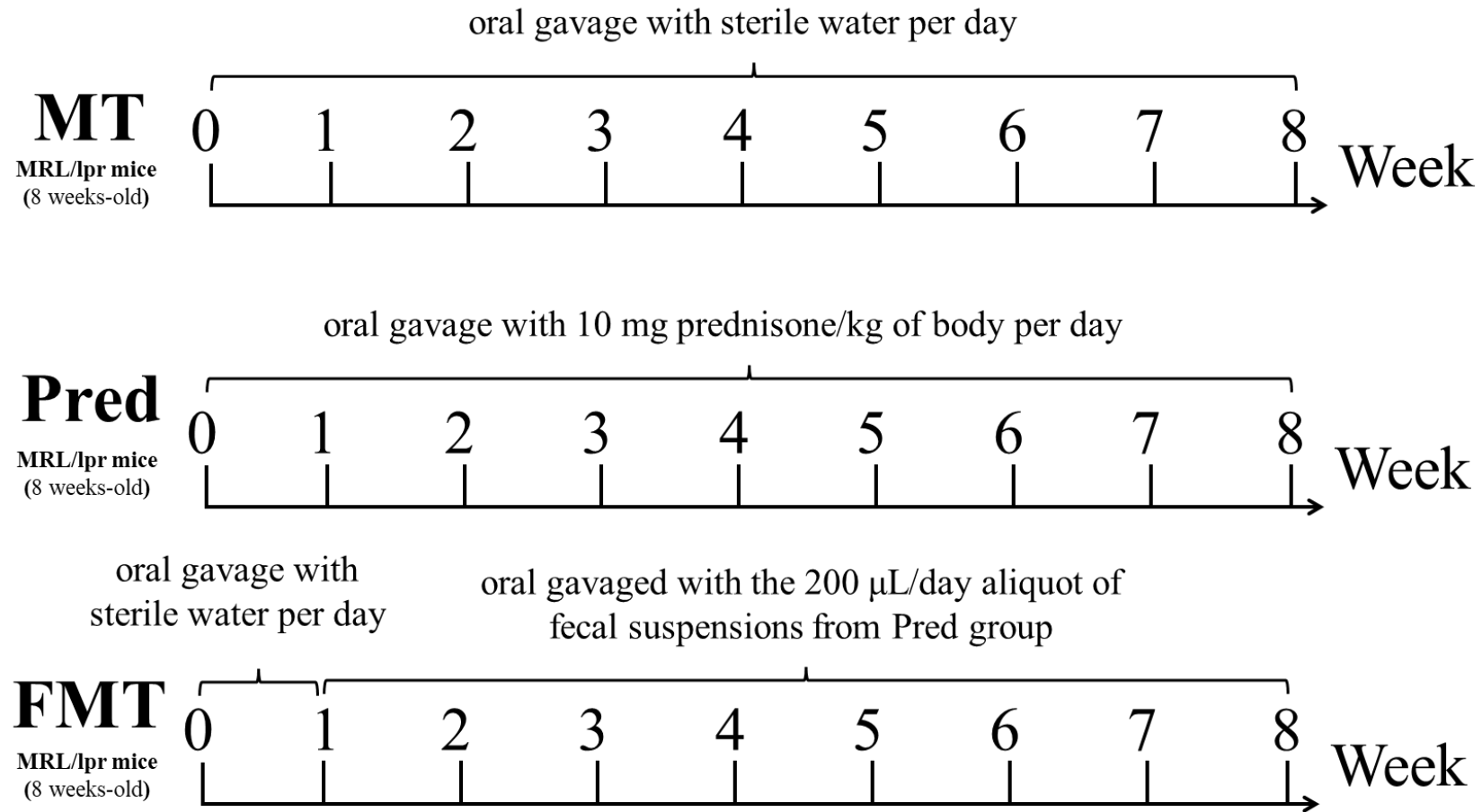
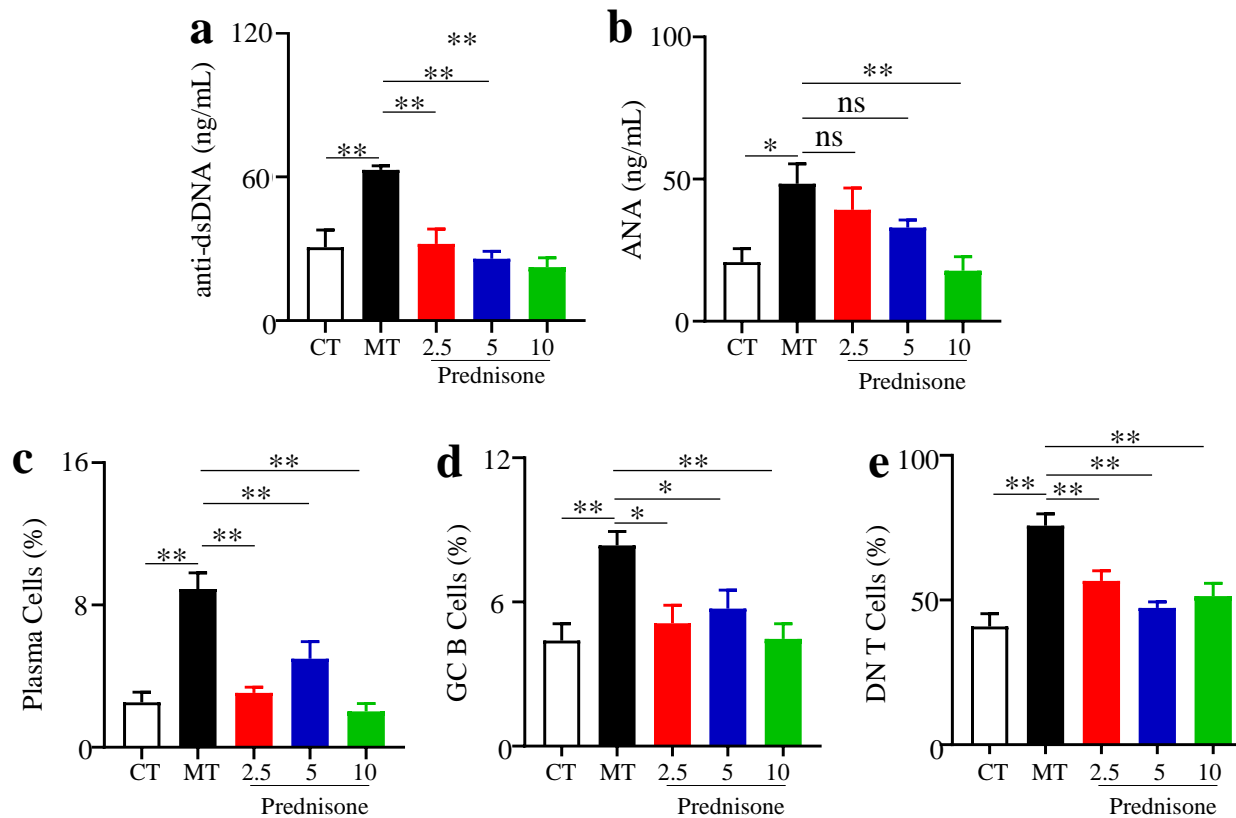


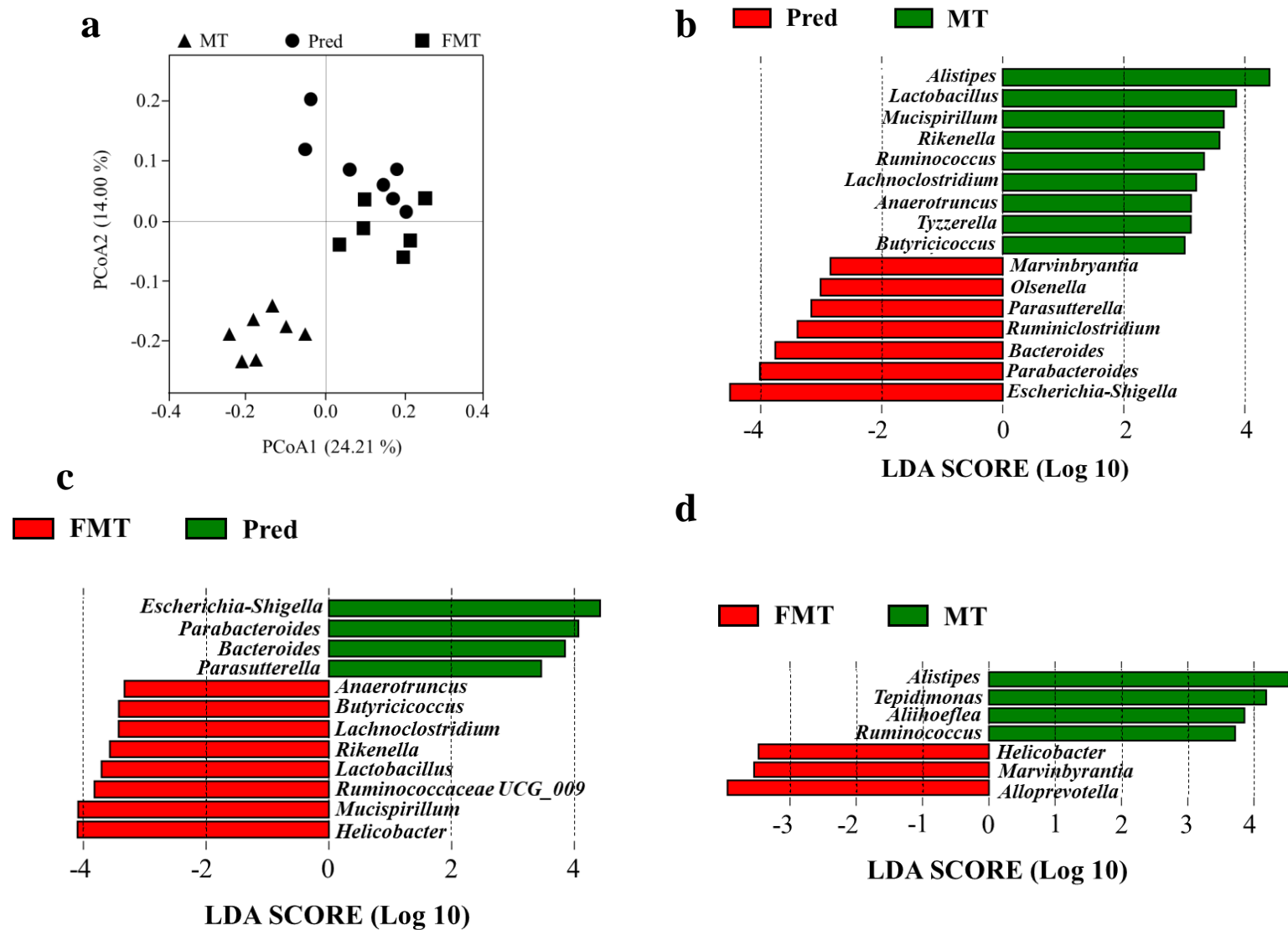
**Figure S1** The diagram of the experiment treatments to reveal the effects of prednisone on gut microbiota in MRL/lpr mice. CT, the C57BL/6 mice treated with sterile water; MT, the MRL/lpr mice treated with sterile water.



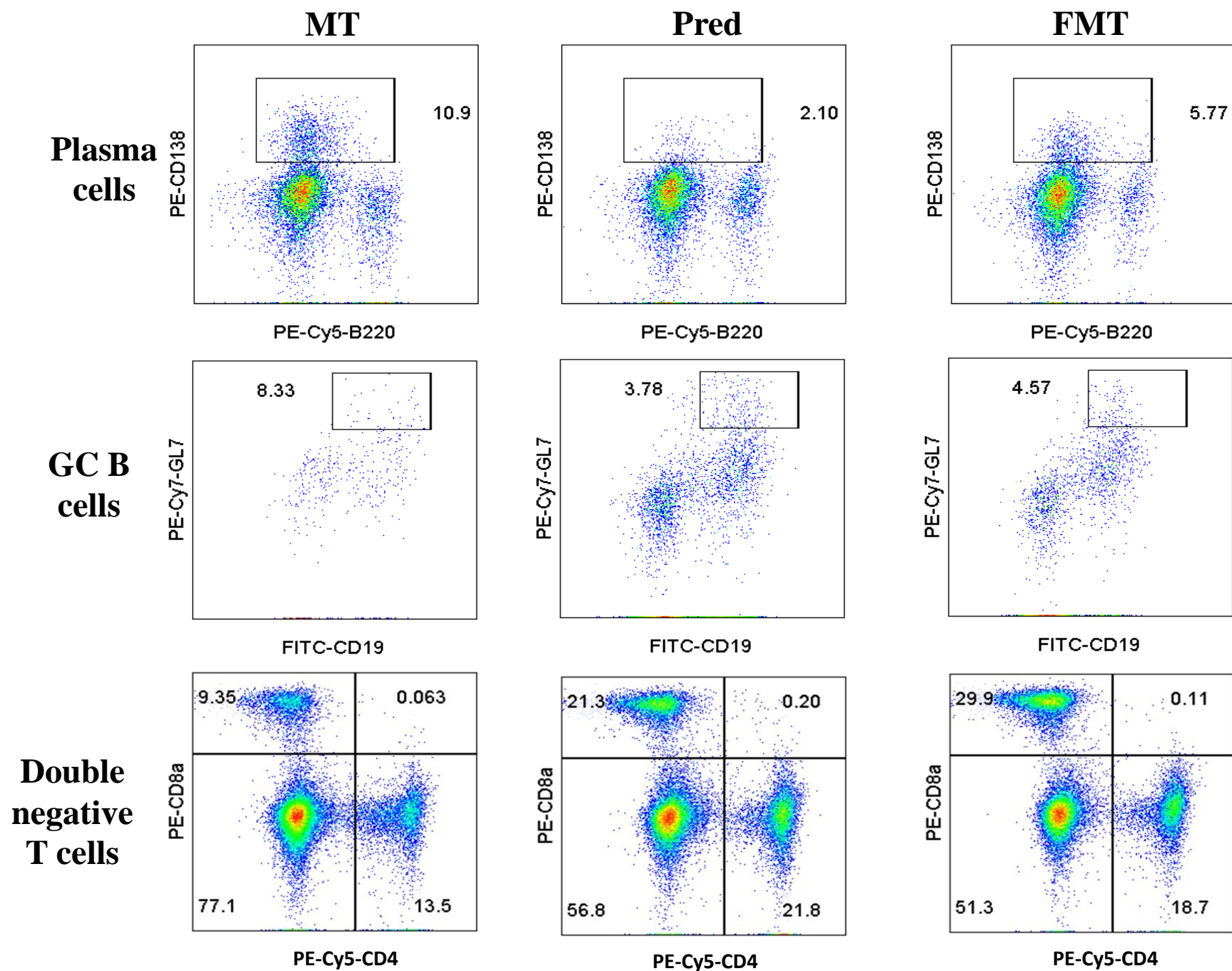
**Figure S2** The diagram of the experiment treatments to reveal the effects of prednisone-altered gut microbiota on MRL/lpr mice. MT, the MRL/lpr mice treated with sterile water; Pred, the MRL/lpr mice treated with prednisone; FMT, the MRL/lpr mice treated with fecal microbiota transplantation.



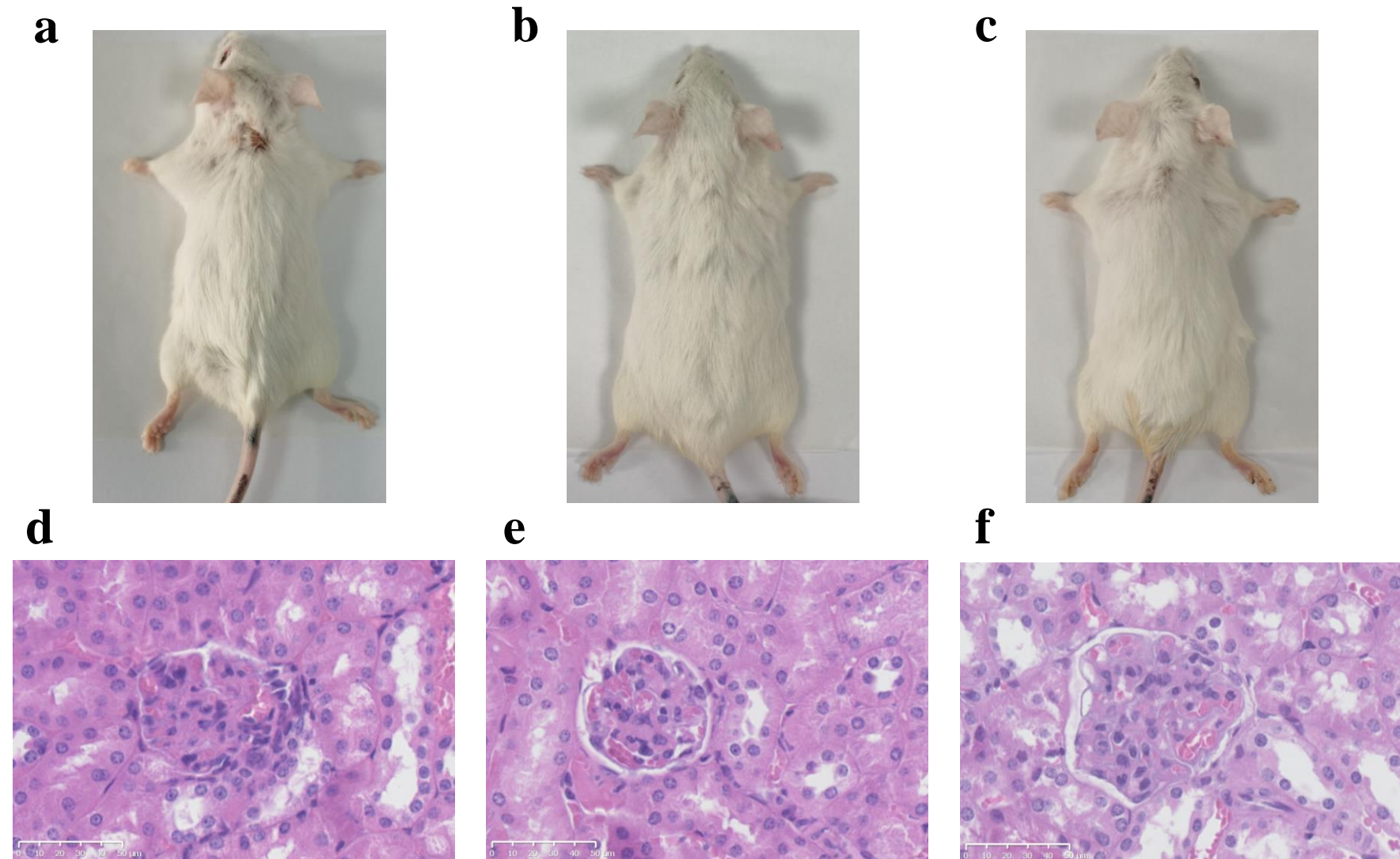
**Figure S3** Effects of prednisone on lupus activity. (a) Serum anti-dsDNA concentration. (b) Serum ANA concentration. (c) The percentage of plasma cells in spleen. (d) The percentage of germinal center (GC) B cells in spleen. (e) The percentage of double negative (DN) T cells in spleen. “\*\*\*” represents  $p < 0.01$ ; “\*” represents  $p < 0.05$ ; “ns” represents no significant difference.



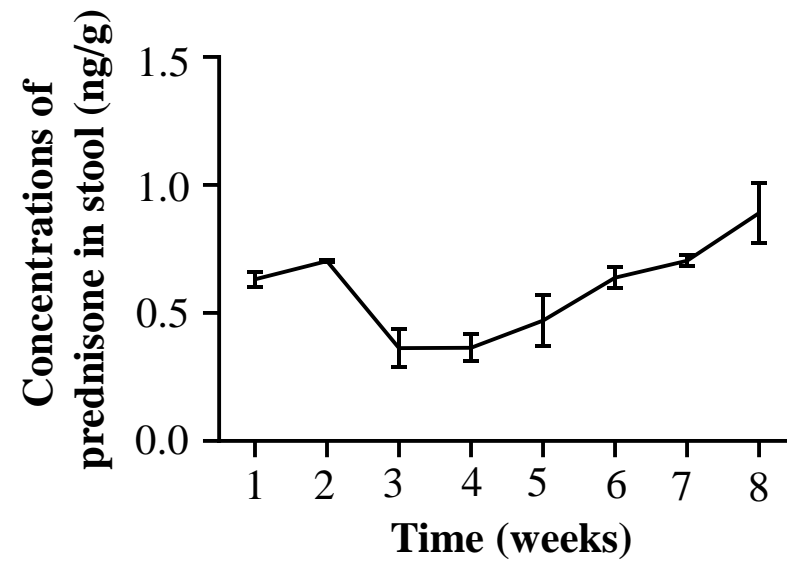
**Figure S4** (a) PCoA score plots based on gut microbiota compositions in MRL/lpr mice; LEfSe analysis identified the significantly altered genus in MT vs. Pred (b), Pred vs. FMT (c), and MT vs. FMT (d). MT, the MRL/lpr mice treated with sterile water; Pred, the MRL/lpr mice treated with prednisone; FMT, the MRL/lpr mice treated with fecal microbiota transplantation.



**Figure S5** Representative images of flow cytometry analysis for plasma, GC B and double negative T cells in MRL/lpr mice. MT, the MRL/lpr mice treated with sterile water; Pred, the MRL/lpr mice treated with prednisone; FMT, the MRL/lpr mice treated with fecal microbiota transplantation.



**Figure S6** Representative images of skin lesions (a: MT; b: Pred; c: FMT) and H&E staining from kidneys (d: MT; e: Pred; f: FMT) ) in MRL/lpr mice. MT, the MRL/lpr mice treated with sterile water; Pred, the MRL/lpr mice treated with prednisone; FMT, the MRL/lpr mice treated with fecal microbiota transplantation.



**Figure S7** The concentration of prednisone in stool of MRL/lpr mice