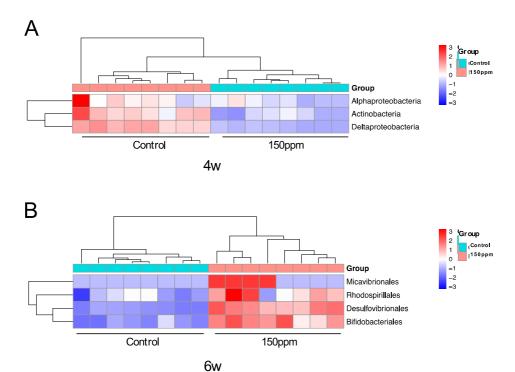
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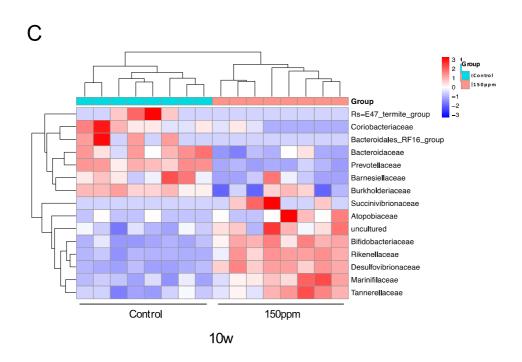
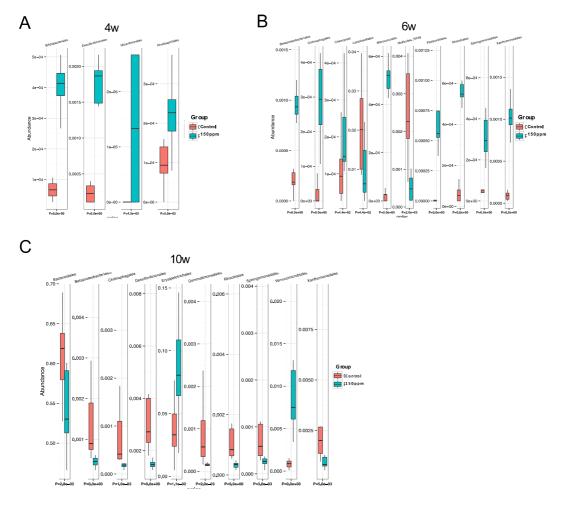
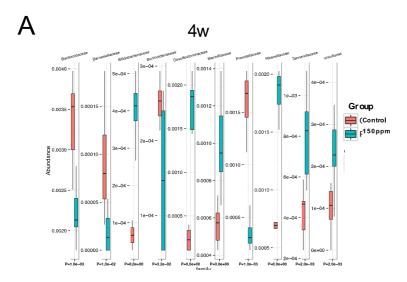
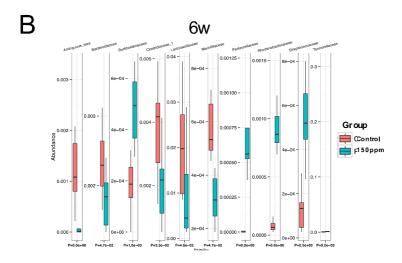


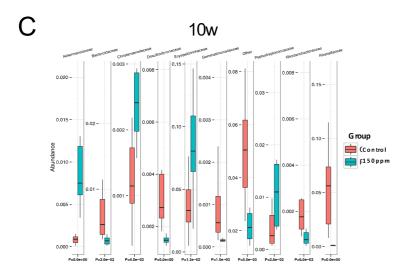
Fig.S1 Shifts in the fecal bacterial compositions at class level of C57 mice fed  $\epsilon$ -polylysine during the experimental period. (A) Heat map and hierarchical clustering of differentially abundant gut bacteria in mice between two groups in four-week-old mice. (B) Heat map and hierarchical clustering of differentially abundant gut bacteria in mice between two groups in six-week-old mice. (C) Heat map and hierarchical clustering of differentially abundant gut bacteria in mice between two groups in ten-week-old mice.



**Fig.S2** Shifts in the fecal bacterial compositions at order level of C57 mice fed  $\varepsilon$ -polylysine during the experimental period. (A) Shifts in the fecal bacterial compositions at 4w. (B) Shifts in the fecal bacterial compositions at 6w (top 10). (B) Shifts in the fecal bacterial compositions at 10w (top 10).







**Fig.S3** Shifts in the fecal bacterial compositions at family level of C57 mice fed  $\epsilon$ -polylysine during the experimental period. (A) Shifts in the fecal bacterial compositions at 4w (top 10). (B) Shifts in the fecal bacterial compositions at 10w (top 10).

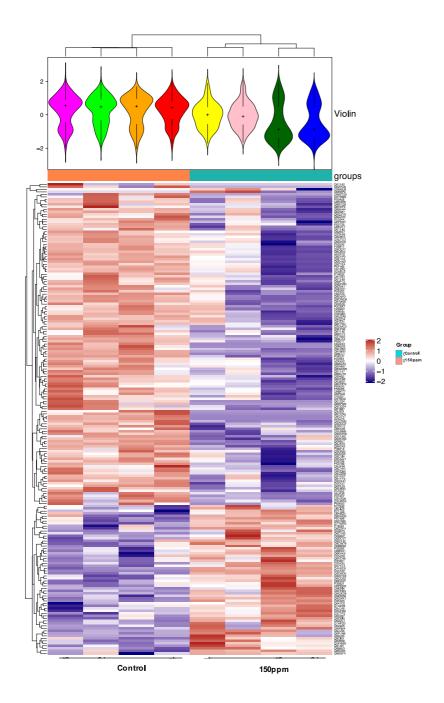


Fig.S4 Heat map and hierarchical clustering of differentially protein in mice between two groups.