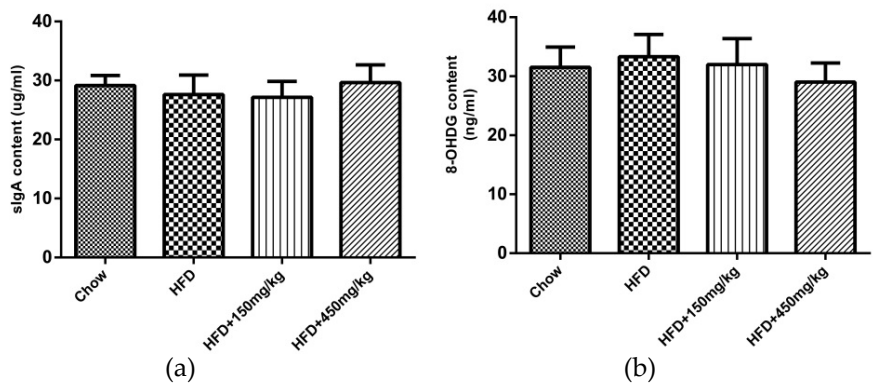
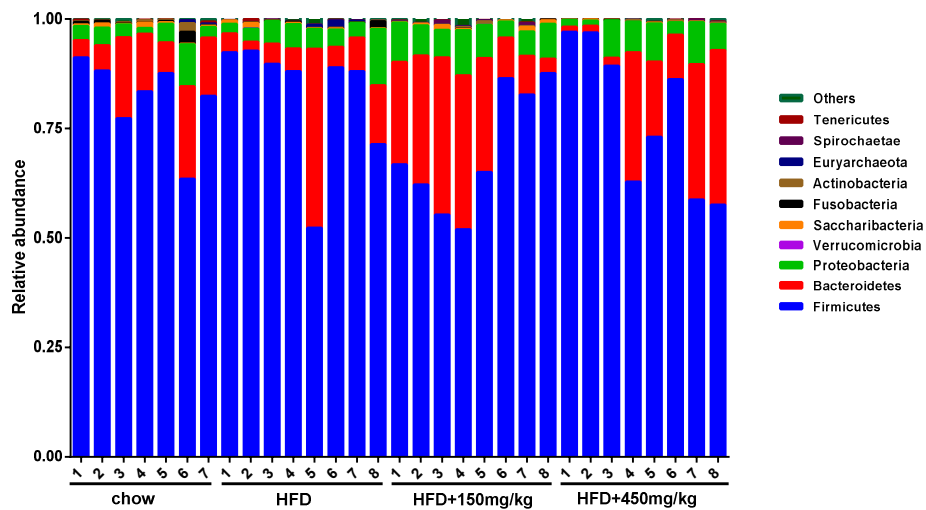


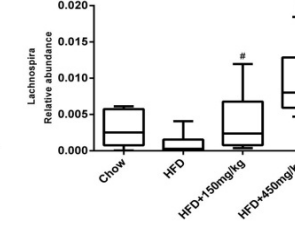
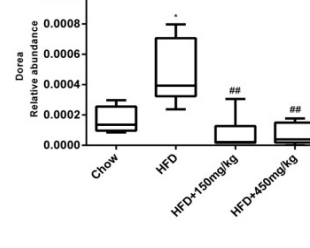
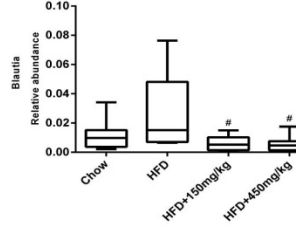
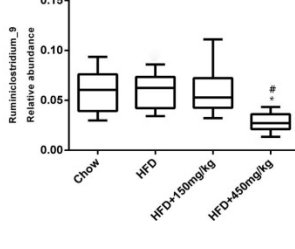
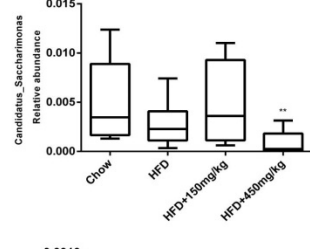
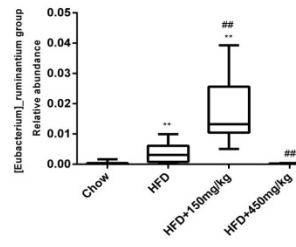
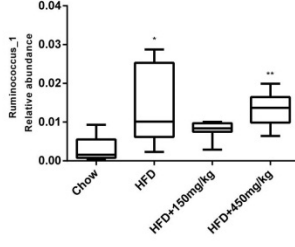
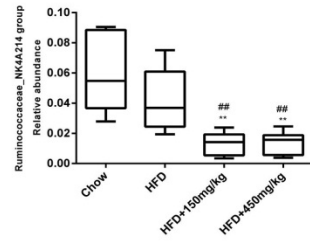
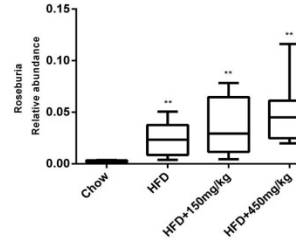
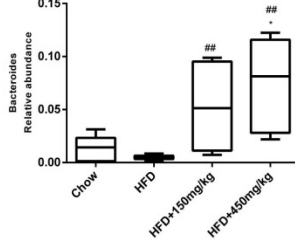
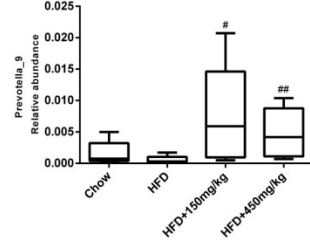
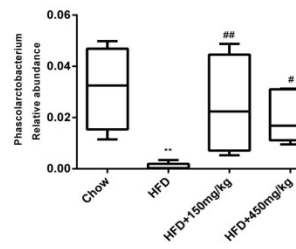
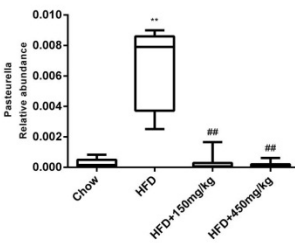
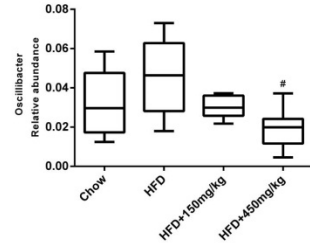
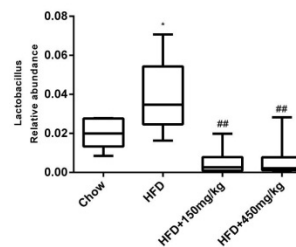
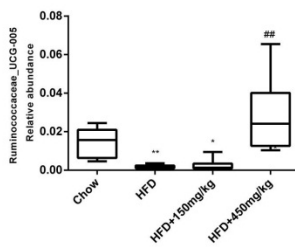
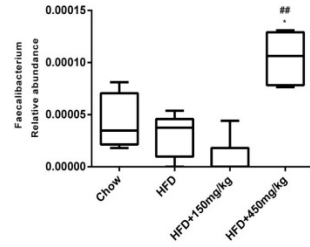
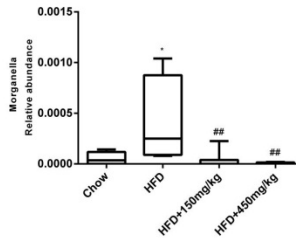
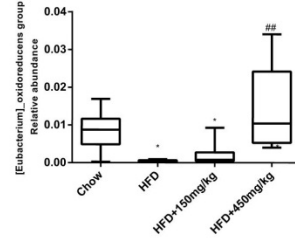
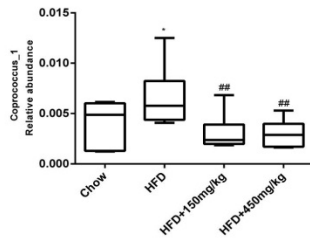
**Supplementary material:** the following are supplementary materials, Figure S1: The content of sIgA and 8-OHDG, Figure S2: Bacterial taxonomic analysis of intestinal bacterium from each rat in the phylum, Figure S3. Relative abundance of several microbiota in the genus.



**Figure S1.** (a) The content of sIgA in colonic mucosa detected by ELISA; (b) The content of 8-OHDG in colonic mucosa detected by ELISA.



**Figure S2.** Bacterial taxonomic analysis of intestinal bacterium from each rat in the phylum.



**Figure S3.** Relative abundance of several microbiota in the genus (those with significant difference among groups). P values were indicated as: \*P< 0.05, \*\*P< 0.005(\* indicate versus the chow group). #P< 0.05, ##P< 0.005(# indicate versus the HFD group).