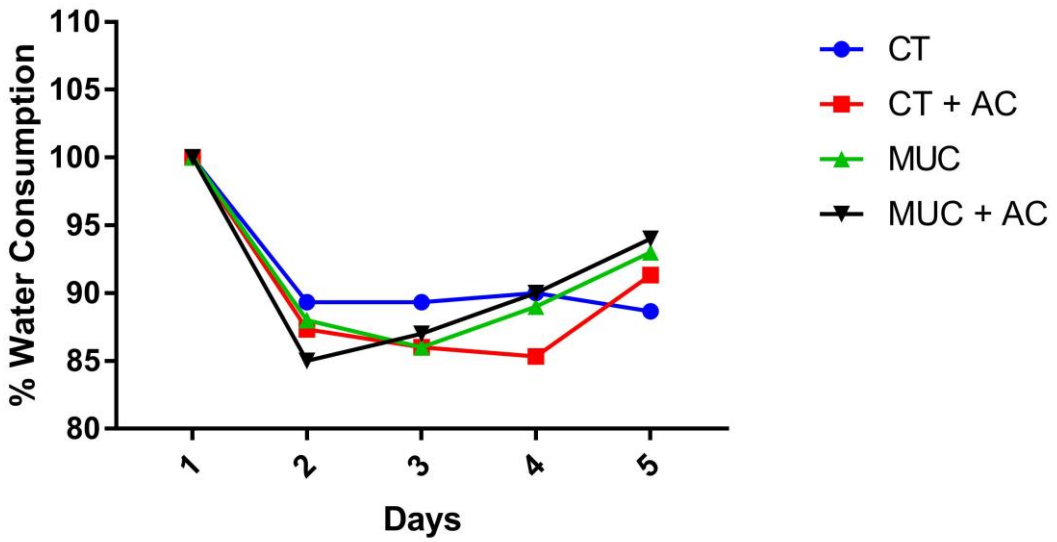
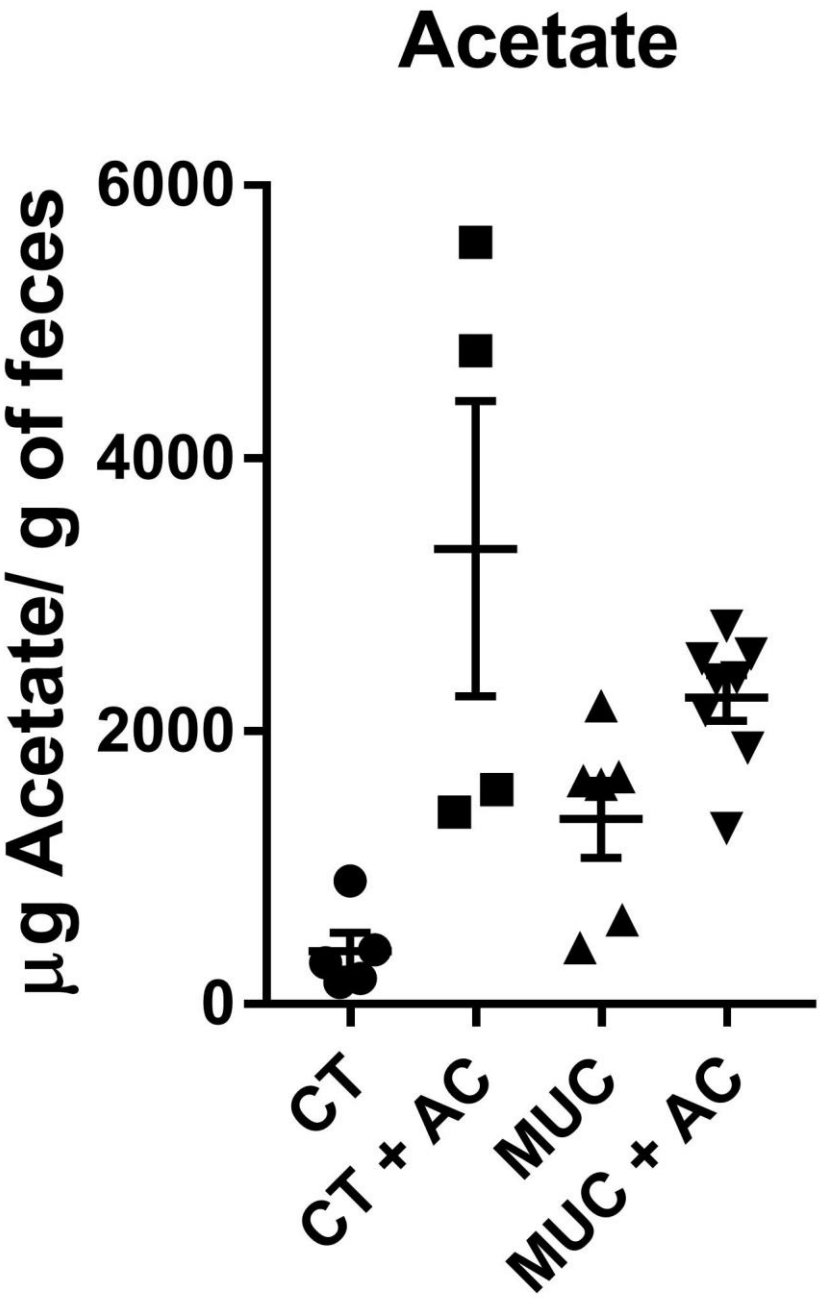
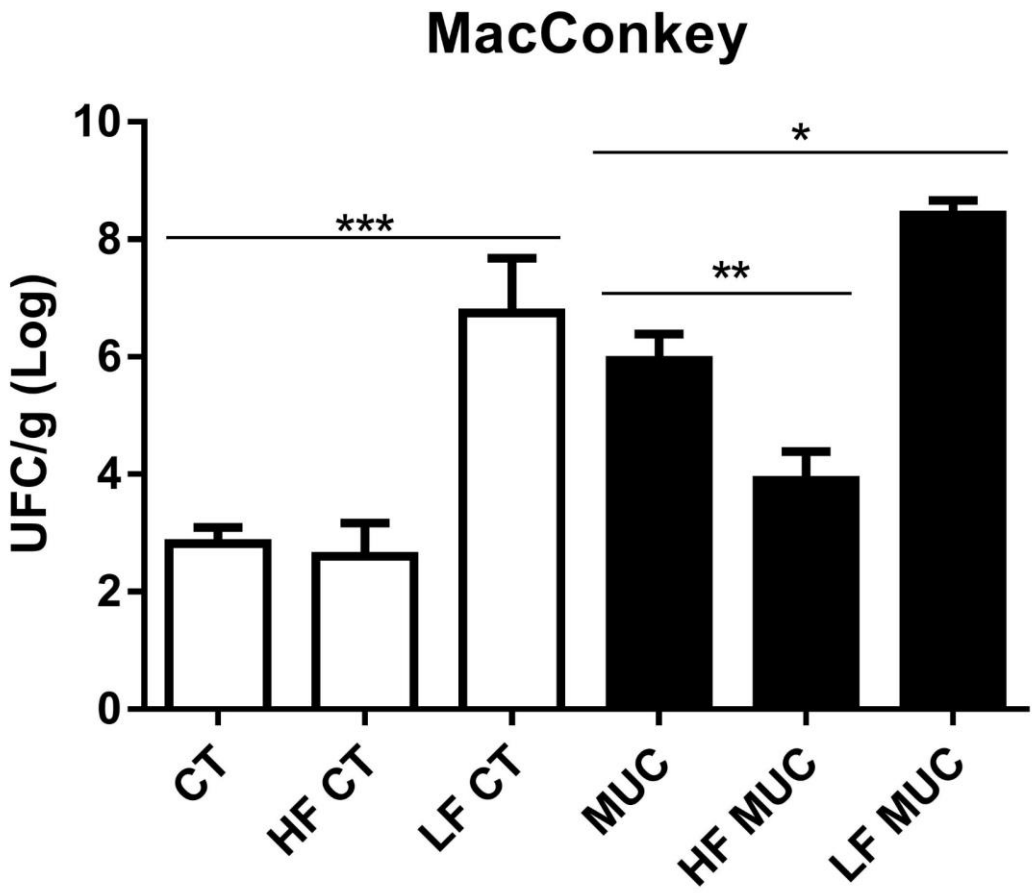


Supplementary Figure 1: Acetate in drinking water does not affect water consumption. Acetate 150 mM was added to drinking water. Mice had access to either water (CT and MUC) or water with acetate (AC and MUC + AC). Mucositis induction began at day 5 and it was achieved by one daily dose of irinotecan (75 mg/kg/d) for three days (groups: MUC and MUC + AC). No significant difference related to water intake was observed among groups. Statistical analysis for body weight was done by Two-way ANOVA followed by Bonferroni's post-test.



Supplementary Figure 2: Oral administration of acetate did not increase acetate levels in feces. Mice received three doses of irinotecan (75mg/kg) for mucositis induction. Acetate was added into drinking water in AC and MUC + AC groups. Ingestion of acetate did not impact acetate levels in feces of MUC + AC group when compared to MUC group and also between CT and CT + AC groups. Statistical analysis was performed by One-way ANOVA followed of Newman-Keuls' post-test.



Supplementary figure 3: HF diet prevented dysbiosis while LF diet increased Enterobacteriaceae levels and aggravated dysbiosis. Mice were either fed with control (CT), high fiber (HF) or low fiber (LF) diets. Mucositis induction was achieved with three doses of irinotecan (75mg/kg). Mucositis induction led to dysbiosis due to increased Enterobacteriaceae levels when compared to control (CT) group. HF diet had a protective effect and prevented dybiosis during mucositis when compared to MUC group. LF diet led to dybiosis when compared to CT group and aggravated dybiosis during mucositis when compared to MUC group. * and ** indicates statistically significant difference compared to MUC group ($p < 0.05$ and $p < 0.01$, respectively). ### indicates statistically significant difference compared to control group ($p < 0.001$). Statistical analysis was performed by One-way ANOVA followed of Newman-Keuls' post-test.