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**Thesis title:** Parabiotic effects of *Lactobacillus plantarum* on dexamethasone-induced fatty liver in rats

### **Abstract**

This study was conducted to evaluate the possible effects of *Lactobacillus plantarum* parabiotic on fatty liver caused by intraperitoneal injection of dexamethasone. For this purpose, *Lactobacillus plantarum* bacteria is first grown in a special culture medium in an incubator, and after centrifugation, the sediment at the bottom of the tube is dissolved in normal saline serum and placed in an autoclave until all the bacteria die. In the next step, twenty young adult male rats were randomly divided into four groups. One group was placed as control, one group was given gastric gavage with parabiotic at a dose of 40 mg/kg, one group was injected intraperitoneally with dexamethasone at a dose of 8 mg/kg, and the last group was given gastric gavage with parabiotic at a dose of 40 mg/kg and intraperitoneal injection of dexamethasone with a dose of 8 mg/kg. After two weeks, rats were euthanized and then their blood was taken to measure blood parameters (AST, ALT, ALP, TG, Chol, GGT, HDL, LDL, TAC, MDA and SOD) and then they were dissected to prepare liver slides. In the pathological examination of the liver slides, a decrease in the accumulation of fat vacuoles was seen in the dexamethasone + parabiotic group compared to the dexamethasone group. However, in the examination of blood parameters, no significant difference was observed in their levels except for ALP between different groups. In general, it seems that the administration of *Lactobacillus plantarum* parabiotic can partially prevent hepatic steatosis caused by dexamethasone injection.