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Nesreen Mohammed Nasr, **Manal Khider**, Wedad Metry and Khaled Atallah. **Antibacterial Activity of Lactic Acid Bacteria against *Helicobacter pylori* Evidence by *in vivo* and *in vitro* Studies.** *International Journal of Current Microbiology and Applied Sciences* (2017) 6(12): 4235-4247.
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Abstract

Comparative studies on some probiotic potential of two selected strains of *Lactobacillus* were carried out during this work. Eight isolates of lactic acid bacteria were tested; the most effective isolates (LAB11 and LAB13) against *Helicobacter pylori* were selected for further probiotic properties and *in vivo*. The histological features of gastritis and the presence of *H. pylori* were also examined. The isolates LAB13 and LAB11 showed highly antibacterial activity which indicated by the largest zone diameter (50.0 and 49.0 mm, respectively). Based on tested probiotic properties the results of acid and bile salt tolerance showed a survival of both isolates with a significant ($p < 0.001$) resistant for LAB13 more than LAB11. The gastric mucosa sections showed that rats which treated with probiotic isolate; LAB11 or LAB13 daily for a week before infection by *H. pylori*, and then infected rats treated with the same isolate (LAB11) for another 6 weeks (Group 3 and 5, respectively) and rats infected first by *H. pylori* and after 4 weeks of infection treated with LAB11 for 6 weeks (Group 4) showed negative *H. Pylori* colonization. So it is recommended using dairy products containing probiotic bacteria as daily protective routine to eradicate growth or colonization of *H. pylori*.

Keywords: Lactic acid bacteria, Probiotics, Antibacterial activity, *Helicobacter pylori*, Gastric ulcers, Duodenal ulcers, Acid and Bile tolerance, Animal model.