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# SCREENING OF LACTIC ACID BACTERIA AS POTENTIAL PROBIOTIC ADD TO ANIMAL FEED

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## SUMMARY

Probiotics are defined as "Live microorganisms which when administered in adequate amounts confer a health benefit on the host". This study aimed to isolate lactic acid bacteria from fermented foods and evaluate their probiotic properties for application as probiotic additives in animal feed. Ten bacteria strains were isolated using MRS (de Man, Rogosa & Sharpe) media. Using an agar well diffusion method, three strains, LT7, C2 and LA6, showed the best antagonistic activities against all test pathogens belonging to *E. coli*, *Salmonella* sp, *Shigella* sp. These strains were evaluated the potential production of extracellular enzymes. The results showed that LT7 and C2 strains were able to higher extracellular enzyme production than LA6 strain. Two strains, LT7 and C2, were evaluated tolerance to low pH (2 - 4), bile salt tolerance (0.5 - 3%), resistance to 3 antibiotics (Tetracycline, Gentamycin, Streptomycin) 10 - 50 µg/ml, found that strain LT7 displayed higher tolerance than strain C2. Thus, strain LT7 was selected as a probiotic candidate and identified as *Lactobacillus plantarum* based on the sequences determined in 16S rRNA gene (1445 bp) analysis. It was observed to be ovoid in shape and to be catalase-negative, to be able to fermented lactose.

**Keywords:** Animal feed, bile salt, fermented food, *Lactobacillus plantarum*, probiotics.

**Ngày nhận bài** : 25/12/2018

**Ngày phản biện** : 18/3/2019

**Ngày quyết định đăng** : 25/3/2019