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**Title: Antimicrobial activity of Lactobacillus plantarum against oral microbial plaque**

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**Abstract:**

Background and objectives: Some strains of lactic acid bacteria have a favorable influence on physiologic and pathological processes of the host due to their specific health-promoting probiotic characteristics that relate to modulation of the immune system. The aim of the present study was to evaluate the possibility of antimicrobial substances against oral microbial plaque, extracted from L. plantarum during its growth in broth culture media.

Materials and Methods: 50 samples collected from white headed cabbage and kept in sterile tubes containing MRS broth and where incubated for 3 days, then subcultured on MRS agar. The grown colonies were characterized by phenotypical properties. PCR analyses are then performed on the extracted DNA from cultures. The colony of L. plantarum confirmed by PCR, inoculated in MRS broth for 5 days then mixed with ethyle acetate. The solution was separated into two phases, which the supernatant was comprised of the extracted antimicrobial compound. The supernatant then was dried at 45°C and was used for antimicrobial susceptibility by E. Test.

Results: The MIC's of this compound affected on target bacteria were as follow: Streptococcus mutans 0.1mg/ml, Streptococcus salivarius 0.05 mg/ml, Streptococcus sanguis 0.2 mg/ml, and Lactobacillus casei 0.05mg/ml.

Conclusion: According to this study and others the L. plantarum can produce antimicrobial compounds and these bacteria exist in fresh vegetables; consume of such vegetables may colonize this probiotic and other useful probiotics in the mouth and intestines and protect these parts of body from pathogens.

**Lactobacillus- antimicrobial- oral microbial plaque**

**Presentation:** Poster