ANTAGONISTIC ACTION OF *LACTOBACILLUS PLANTARUM* AJ2 AGAINST MICROORGANISMS ASSOCIATED WITH TOXINFECTIONS FOOD AND OTHER INFECTIOUS DISEASES

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Bacteriocins are antimicrobial compounds produced by certain lactic acid bacteria (LAB), which can antagonize the growth of spoilage micro-organisms and / or pathogens. The bacteriocins, being of peptidic nature, generally are inactivated by proteolytic enzymes. *Lactobacillus plantarum* presented technological properties as starter cultures, as well as antagonistic activity against pathogens associated with food and hospital infection. The study was aimed at identifying the protein nature of the antagonistic action and thus the possibility of the presence of bacteriocin produced by strain *L. plantarum* AJ2. Each plate containing basic MRS agar was divided into four regions. Region 1: AJ2 and around the culture, trypsin. Region 2: AJ2 and water close to the culture. Region 3: Only AJ2. Region 4: Doripenem (antibiotic). Then, the surface of the plates was covered with 15 ml of TSB agar (0.8%) previously inoculated with each of the pathogenic cultures. A zone of inhibition produced around the growth of the microorganism indicated the test antagonist activity to pathogenic strains of the same diameter and was expressed in millimeters. *L. plantarum* AJ2 showed antagonistic effect against the six pathogenic strains tested, including two Gram-negative cultures. We also observed no inhibition of the near region cultures pathogenic culture AJ2 with the enzyme, verifying the protein nature of the antagonistic action. The results indicate potential of the culture *L. plantarum* AJ2 while biopreservation promising crop for food and also as antagonistic effect to pathogens associated with various infectious diseases.