

ANTIMICROBIAL ACTIVITY OF LACTIC ACID BACTERIA IN THE PRESENCE OF *SALMONELLA*

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The lactic acid bacteria (LAB) are producing substances such as hydrogen peroxide, carbon dioxide, diacetyl, acetaldehyde and protein nature substances, called bacteriocins; substances which are capable of inhibiting the growth of pathogenic bacteria such as *Staphylococcus aureus*, *Listeria monocytogenes*, *Salmonella* spp, *Pseudomonas* spp and coliform bacteria. Besides these features, the LAB have the ability to protect the individual in pathogens intake through their probiotic capacity. Contamination by *Salmonella* occurs mainly by ingestion of poorly processed foods, which is a major public health problem. Therefore, this study aimed to evaluate the antimicrobial capacity of five lactic acid bacteria compared to eight isolates of *Salmonella* from food served in self-service restaurants in the city of Divinópolis / MG. The antimicrobial activity was performed through the diffusion plate method. The plates were made after solidification of BHI Ágar containing 2.5×10^7 UFC /mL of *Salmonella* isolates. Strains of lactic acid bacteria belonging to the species *L. plantarum*; *Paramesenteroides Weissela* and *L. paraplantarum* were grown on MRS lactobacillus broth. Cells were removed by centrifugation, the supernatant adjusted to pH 7.0, filtered to then be added catalase. The supernatant was added to the plates and after incubation was observed the presence of halos. All LAB inhibited at least two of the *Salmonella* isolates, two strains of *L. plantarum* being the most efficient ones. Only two *Salmonella* isolates were not inhibited by LAB and these were from mayonnaise and tropeiro beans. The most sensitive was isolated from cooked chicken. The smallest halo found was of 10mm and the biggest 13mm. Further studies still need to be conducted to confirm the proteic nature of the substance. However, these tests show the potential of LAB strains in inhibiting pathogenic bacteria, because they are important information to check the ability of probiotic bacteria.

Key words: lactic acid bacteria, *Salmonella*, antimicrobial activity

Acknowledgement: FAPEMIG, CNPq, UFSJ