

TITLE: POTENTIAL ANTAGONISTS OF LACTIC ACID BACTERIA (*Lactococcus garvieae*) ISOLATED OF ARTISANAL COALHO CHEESE

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ABSTRACT

Lactic acid bacteria (LAB) are known to produce a number of primary and secondary metabolites that have effective antimicrobial properties in the control of bacterial strains. This antagonistic property of lactic acid bacteria comes primarily from the action of organic acids, such as lactic acid, considered the main metabolite of this fermentation, or from a series of secondary compounds associated with bacterial metabolism. The research with the lactic microbiota of milk and its derivatives and the relation of these microorganisms with the pathogenic bacteria and the production of antimicrobial compounds by strains of LAB comes being carried out in several countries. *Lactococcus* are generally predominant in fresh cheeses. This contamination is commonly associated to the milking process of milk through forage, considering the presence of *Lactococcus* in the environment, in the plants and even in the skin of the animals. Brazilian industrial or artisanal cheeses have little information in the literature about the isolation and identification of *Lactococcus garvieae*, still underestimated in the lactic fermentation process. This study proposed to evaluate the antagonistic activity of lactic acid bacteria of the genus *Lactococcus garvieae* isolated from artisanal Coalho cheese produced in the Sertão region of Paraíba (Cajazeiras, Sousa, Patos, Piancó, Itaporanga e Serra do Teixeira). The analyzes were done in 49 strains. All strains were activated in M17 broth and agar, evaluated for antagonism against *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Staphylococcus aureus* and *Escherichia coli*. The bacterial strains were acquired from the Microbiology Laboratory of the Biological Sciences Academic Unit (UACB) of the Rural Health and Technology Center (CSTR), Patos-PB campus. The strains of the genus *Lactococcus garvieae* showed inhibited against *E. coli*, *S. aureus* and *P. aeruginosa*, respectively. There was no inhibition in all strains compared to *Klebsiella pneumoniae*. The prominent pathogen antagonistic activity of the lactic bacteria of the genus *Lactococcus garvieae* isolated from artisanal Coalho cheese presented promising probiotic profile characteristics in these initial studies.

Keywords: Antagonism; acid-lactic bacteria; Probiotics; *Lactococcus garvieae*.