

TITLE: MOLECULAR IDENTIFICATION AND ANTAGONIST POTENTIAL OF AUTOCHTHONOUS LACTIC MICROBIOTA OF SHEEP MILK

AUTHORS: FERREIRA, M.A.; KOCH, A.C.C.; NERO, L.A.; RIBEIRO, J.L.; POGGIANI, S.S.C.; CAVICCHIOLI, V.Q.; CAMARGO, A.C.

INSTITUTION: UNIVERSIDADE DE BRASÍLIA, BRASÍLIA, DF (CAMPUS UNIVERSITÁRIO DARCY RIBEIRO, CEP: 70910-900

ABSTRACT: With the growing demand for minimally processed products and with less chemical preservatives, several researches aim for the characterization of acid lactic bacteria with antimicrobial activity, and its potential as a biopreservative. Sheep milk presents high nutritional and commercial value, and highest levels of total solids if compared to goat milk and cow milk, allowing a better income in the dairy production. This research focused on the enumeration, molecular identification, characterization of the antagonist potential and the bacteriocinogenic activity of the autochthonous lactic microbiota in the sheep milk from Distrito Federal. One-hundred and twenty-six samples of raw sheep milk were collected and 78 isolated LAB were tested to its antagonist potential against four isolates and standard strains of *Listeria monocytogenes*, and four of *Staphylococcus aureus*, and one strain of *Lactobacillus sakei* ATCC 15521; then, based on the Rep-PCR reaction profiles of the products, these isolated were submitted to genetic sequencing. Their bacteriocinogenic activity was also evaluated. Analysis showed development of LAB in 80.2% (101/126) of the samples, with an average count of 2.25×10^3 UFC/mL. Results also showed that isolated had reaction of antagonism against the tested microorganisms, and the sequencing of the gene 16S rRNA identified 33 *Lactococcus lactis* subsp. *lactis* and one *Lactococcus garviae*, 32 isolated as *Enterococcus* spp., 10 isolated as *Pediococcus pentosaceus* and two isolated of *Streptococcus salivarius*. *Lactococcus lactis* showed the higher microbial activity against *S. aureus* compared to *L. monocytogenes*. No isolated showed production of bacteriocins, suggesting that the antagonist activity might be related to the production of other substances. Currently, there is a research in our laboratory to evaluate the technological potential of these LABs isolated from sheep's milk.

Keywords: inhibitory action, bacteriocinogenic activity, *L. monocytogenes*, genetic sequencing