

## Poster Abstracts

**Food Microbiology & Human Health**

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**GENES ENCODING FOR INTESTINAL MUCUS ADHESION FACTORS IN LACTOBACILLUS MUCOSAE STRAINS ISOLATED FROM BRAZILIAN GOAT MILK**

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**Abstract Content:** Molecular biology can be outstanding tool in the selection of probiotic candidates, based on the detection of genetic factors related to the beneficial properties of studied lactic acid bacteria (LAB). Surface proteins with mucus-binding capacity mediate the adherence of LAB to the intestine and are desirable feature for probiotic bacteria, as they can increase persistence and ability of LAB to colonize the intestine. In order to investigate mucus adhesion properties, the presence of genes encoding for adhesion proteins were investigated in three *Lactobacillus mucosae* strains isolated from goat milk.

*Lb. mucosae* strains CNPC006, CNPC007 and CNPC009 were differentiated based on RAPD-PCR and identified based on recommended biochemical and physiological test and 16s rRNA sequencing. On our best of knowledge, this is the first report of detection of *Lb. mucosae* in milk in Latin America. Preliminary physiological test related to survival in presence of ox-bile, low pH, aggregation properties, hydrophobicity, and interaction with gastro-intestinal related pathogens has showed a probiotic potential for the studied *Lb. mucosae* strains. Presence of genes related to mucin-binding protein (*mub*), mucus adhesion-promoting protein (*mapA*), elongation factor tu (*ef-tu*) and mannose-specific adhesion (*msa*) was investigated by PCR. Analysis of the PCR obtained results, showed the presence of *map*, *mub*, and *ef-tu* in the genome of the three studied *Lb. mucosae* strains. In addition, the mannose-specific adhesion (*msa*) gene was detected in *Lb. mucosae* CNPC006 and *Lb. mucosae* CNPC007. The presence of the targeting genes, related to adherence to the intestinal epithelium, can give a better possibility of studied *Lb. mucosae* strains (CNPC006, CNPC007 and CNPC009) in colonisation of the gastro-intestinal tract and strengthen the probiotic potential of those wild strains.

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