Title: PROBIOTIC POTENTIAL OF *Lactobacillus casei* STRAINS ISOLATED FROM THE STOOLS OF BREAST-FED INFANTS

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ABSTRATC

Probiotics are suggested as an aid for therapy or prevention of infectious diseases. The intestinal microbiota and breast milk are important sources of novel probiotic strains, with *Lactobacillus* and *Bifidobacterium* as the most widely used as functional foods. Thus, the aim of this study was to identify new strains with probiotic potential from stools samples of exclusively breastfed infants. Stools samples from two different periods of lactation (colostrum and transitional milk) were inoculated onto MRSC agar and Beerens agar for BAL and *Bifidobacterium* spp, respectively. Five bacterial isolates were acid and bile salts-resistant, with ability to adhere to mucin and human intestinal (HT-29) cells *in vitro*. They were able to inhibit the growth of distinct diarrheagenic *Escherichia coli* (DEC) strains. Bacterial identification of selected colonies by 16S rDNA sequencing revealed *Lactobacillus casei*. We suggest that these five novel *L. casei* isolates from breast-fed infants present probiotic potential and may be useful to prevent or treat intestinal infections caused by DEC strains, however additional studies *in vivo* are needed to confirm these potential.

Key words: Human milk; Probiotics; *Lactobacillus casei*; *Escherichia. Coli;* Childhood diarrhea

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