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Survival of *Enterococcus faecium* CRL 183, *Lactobacillus helvetivus* 416 and *Bifidobacterium longum* ATCC 15707 under *in vitro* simulated intestinal conditions

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Resistance to intestinal environment is among the *in vitro* tests that are frequently suggested for the evaluation of the probiotic potential of a bacterial strain. The aim of this study was to determine the survival of three probiotic microorganisms (*Enterococcus faecium* CRL 183, *Lactobacillus helveticus* 416 and *Bifidobacterium longum* ATCC 15707) in a fermented product based on an aqueous extract of soybean, under *in vitro* simulated intestinal conditions. The simulated intestinal fluid consisted of pancreatin (0.9 g/L), sodium bicarbonate (12.5 g/L) and Oxgall (6.0 g/L) at pH= 6.5. The product were placed in contact with the simulated intestinal fluid (1:10) or with peptone water as a control (1:10) and both were incubated for 180 minutes at 37°C. After this period serial dilutions were performed and plating on specific media. The pH was decreased from 6.4 to 4.6 after 5h of fermentation assay. The viable cells of the strains in the final product were 10.04 log10UFC/g, 10.26 log10UFC/g and 10.11 log10UFC/g for *Enterococcus* spp., *Lactobacillus* spp. and *Bifidobacterium* spp, respectively. Under intestinal conditions, microbiological tests showed that population of *Enterococcus* spp., *Lactobacillus* spp. and *Bifidobacterium* spp. did not significantly (p<0.05) change compare to the control. The results indicate that the microorganisms used on potential probiotic fermented soy product are able to survive under *in vitro* simulated intestinal conditions.

Biography

Larissa Sbaglia Celiberto completed a bachelor in Nutrition and is currently enrolled in the Master Program, specializing in Food & Nutrition, at Sao Paulo State University (UNESP). Her project at Probiotics Research Laboratory focuses on the effect of a probiotic product and how it contributes to inflammatory bowel disease.

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