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***In vivo* probiotic characterization of a strain of *Pediococcus pentosaceus* isolated from equine feces**

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Among the food additives used in animal production, highlight the probiotics which are beneficial to the health of the host and do not promote drug resistance. In this context, this study aimed to characterize lactic acid bacteria isolated from feces of young foals for use as probiotics in food supplementation and growth promotion. An isolate of *Pediococcus pentosaceus* fully complied all of the requirements established for *in vitro* functional characterization and was chosen for *in vivo* tests. The weight gain from dietary supplementation of conventional mice with an isolated *Pediococcus pentosaceus* challenged or not with *S. typhimurium* was evaluated in order to check the influence of this treatment on animals. To verify the safety of this treatment, we compared liver and spleen indices and mortality rate of all groups. Only the group treated and challenged with *S. typhimurium* did not show a tendency to gain weight. Oral administration of an isolated *Pediococcus pentosaceus* in the mice was not able to increase the survival rate of infected animals. The spleen and liver indices demonstrated that this treatment does not promote a significant increase ($p > 0.05$) in the size of these organs compared to control animals. Statistical difference was observed ($p < 0.05$) only when the indices are compared between controls and challenged groups. Treatment with these *P. pentosaceus* isolate was proved to be safe but was not an appropriate therapy against *S. typhimurium* infection, because it did not cause any weight gain and increased survival rate of animals infected.

Biography

Bruno Campos Silva has graduated in Biomedicine from Federal University of Triângulo Mineiro in 2007. He has got his Master's degree in Genetics in 2011 and he is currently doing his Doctorate in Genetics at the Federal University of Minas Gerais. He has experience in Genetics with emphasis on Molecular Genetics of Microorganisms and Biotechnology, acting on the following topics: Lactobacilli, molecular identification, oral vaccine and probiotics.

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