The potential of *Lactobacillus rhamnosus* and *Lactobacillus plantarum* isolated from goat's milk in inhibiting *Salmonella typhimurium* ATCC 14028 infections in rats

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Title	The potential of *Lactobacillus rhamnosus* and *Lactobacillus plantarum* isolated from goat's milk in inhibiting *Salmonella typhimurium* ATCC 14028 infections in rats
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Abstract	Probiotic is live non-pathogenic microorganisms that give beneficial effects on health when they are administered in adequate amounts. The objective of the study was to evaluate the influence of Lactic Acid Bacteria (LAB) isolates (L. rhamnosus and L. plantarum) as well as cheese containing the probiotics on microflora profiles, morphological profile of ileum and caecum, and immunomodulator potency by measuring lymphocyte proliferation and IgA levels in rats. Male Sprague Dawley rats were fed with the probiotics or cheese containing the probiotics for 10 days, infected with S. typhimurium for 3 days, and continued to be fed with or without the probiotics or the cheese. A total of 6 treatments were applied, which were: (pro-typ-pro, pro-typ-std, che-typ-che, che-typ-std, pro-PBS-pro, and std-typ-std). The measured variables were the number of LAB and S. typhimurium colonies, lymphocyte cells, and the level of SIgA. The results showed that the highest number of LAB in the ileum and caecum in probiotic fed rats (pro-typ-std followed by pro-typ-pro) as compared to the control, whereas number of S. typhimurium was lower. The study showed that the treatment of probiotic isolate was able to improve the number of lymphocyte during the first 10 days, during the infection of S. typhimurium, and post infection stage. The treatment of probiotic isolate was able to improve SIgA at the time of S. typhimurium intervention. In conclusion, mixed isolates of L. rhamnosus and L. plantarum and cheese containing the probiotics were able to show preventive and remedial functions during S. typhimurium ATCC 14028 infection, thus demonstrate the potential to be used as probiotic cultures. (c) All Rights Reserved
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