Antimicrobial properties of plant extracts of Thymus vulgaris L., Ziziphora tenuior L. and Mentha Spicata L., against important foodborne pathogens in vitro

F. Tabatabaei Yazdi - Department of Food Science and Technology, Ferdowsi University, Mashhad. I.R. Iran.
A. Mortazavi - Department of Food Science and Technology, Ferdowsi University, Mashhad. I.R. Iran.
A. Koocheki - Department of Food Science and Technology, Ferdowsi University, Mashhad. I.R. Iran.
SH. Afsharian - Department of Food Science and Technology, Ferdowsi University, Mashhad. I.R. Iran.

The ancient-Iranians were familiar with many medicinal herbs and were aware of their usefulness in treatment of various diseases. In this study Thymus vulgaris L., Ziziphora tenuior L. and Mentha Spicata L. extracted with methanol 94 ° and the antimicrobial effects of extracts were evaluated on Escherichia coli PTCC 13346 and Staphylococcus aureus PTCC 13347 by using the method of Collins and disk agar diffusion method. The results show that methanolic extracts were quite effective in 200 μg/ml concentration on Escherichia coli PTCC 13346 and Staphylococcus aureus PTCC 13347 and were prevented from growth them on medium. In disk agar diffusion method, 10, 30, 50 and 0% methanolic extract concentrations, was deterred effect on Escherichia coli PTCC 13346 and Staphylococcus aureus PTCC 13347. The Thymus vulgaris L., Ziziphora tenuior L. and Mentha Spicata L. extracts presented the more effective impact on the growth of Staphylococcus aureus PTCC 13347 than Escherichia coli PTCC 13346 (p<0.05). Among the bacteria tested, E. coli was the resistant bacterium against Thymus vulgaris L., Ziziphora tenuior L. and Mentha Spicata L. extracts E. coli is known to possess a high level of intrinsic resistance to most of the antimicrobial agents due to a very restrictive outer membrane barrier. As a result alcoholic extracts of Thymus vulgaris L., Ziziphora tenuior L. and Mentha Spicata L., have been strong antimicrobial activity against many food pathogen bacteria. Results showed Thymus vulgaris L., Ziziphora tenuior L. and Mentha Spicata L. extracts can be used as natural antimicrobial in food products.
این صفحه به محتوای تاییدی نمایه سازی مقاله در پایگاه استادی سیویلیکا می‌باشد. در هر لحظه به منظور تایید اصلاح این گواهی می‌توانید وضعیت تایید مقاله را از طریق پشتیبانی به صورت آنلاین کنترل نمایید.