

## Abstract

*Staphylococcus aureus* in addition to food poisoning cause a variety of infections in humans and for human food industry is a serious threat. This study aimed to the antibacterial activity of alcoholic extract of cinnamon (*Cinnamomum Zeylanicum*) in inhibiting of *S. aureus* bacteria (*Staphylococcus aureus*) alone and in combination with nisin in minced meat *Otolithes rubber* was done. Extraction of Extracts of plants was performed with using vacuum evaporation was conducted with the help of Rotary effect of different concentrations of alcoholic extracts of cinnamon. The results showed that the growth of bacteria in concentrations (2/5) and nisin (0/5, 2/5) respectively 9 and 6 days later stopped. Low concentrations of cinnamon extract (1%) did not inhibit bacteria. Suitable effects for the growth inhibitory of *S. aureus* in meat minced fish frenzy at a concentration of 2/5 percent extract were observed in all doses used nisin could stop the growth of bacteria after day 6. Combination treatments were effective in reducing the rate of growth of bacteria and were able to stop bacteria from day 6 onwards. According to the findings of this study can be said that cinnamon extract and bacteriocin nisin alone has inhibitory properties and as a natural preservative for food and industrial chemical species that are introduced instead. The application of these compounds have proved synergistic effect them together.

**Key words:** *otolithes rubber, Staphylococcus aureus, cinnamon, nisin*



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**Effect of nisin and alcoholic extract of cinnamon on inoculated populations of  
*staphylococcus aureus* ATCC 1113 otolithes rubber minced fillet at 4°C.**

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