

# **Investigation of antimicrobial and Inhibitory properties of hollyhocks (Alcea setosa) extract on the production of BSA protein amyloid nano-biofibrils as a model protein**

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**Abstract Introduction:** Alcea plant of the Pancreas family is one of the most important herbal medicinal herbs. Herbaceous plant is herbaceous, stable, with a stems height of 0.5 to 1.5 meters, covered with soft flecks with long, pale, pale yellowish, fingering, and yellowish branches. The aim of this study was to investigate the antimicrobial activity of alfalfa extract and its anti-Alzheimer's effect by inhibiting the fibrillation process in serum albumin albumin. **Materials and Methods:** First, the plant was completely powdered and then prepared by soaking the extract of the plant. The antimicrobial activity of the extract on *E. coli* and *S. aureus* bacteria was performed by antibiogram and wells and MIC and MBC extracts were determined. Alzheimer's effects were also evaluated using spectrophotometric method. **Results:** The diameter of the non-growth halo of the hydroxylic acid extract in the wells in *S. aureus* and *E. coli* bacteria was 11 and 12 mm, respectively. These values in the disk diffusion method were 13 and 15 mm, respectively. The results of MIC and MBC for both bacteria were 12.5 mg / ml and 25 mg / ml, respectively. In the study of anti-alzheimeric effect, it was found that the increase in total concentration (up to 100%) reduced the presence of amyloid strands, and the minimum amount of red absorption and redshift was observed in Kengwond's visible adsorption method, which is a self-confirmation of Alzheimer's anti-aliasing effect. **Conclusion:** The results of this study showed that Alcea has antimicrobial effects and with side effects and cost less than chemical drugs can be used as one of the most effective drugs for the treatment of microbial infections, as well as the reduction of Alzheimer's effects in humans. To be placed. **Key words:** Alcea, Antimicrobial effects, Alzheimer's effects, Amyloid.

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