Title: Investigating next-generation edible packaging: Protein-based films and coatings for delivering active compounds

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Abstract: Silver nanoparticles (AgNPs) have been identified as an efficient antibacterial representative capable of combating bacteria that cause infections. AgNPs have antibacterial properties against Gram-negative and Gram-positive bacteria and multidrug-resistant pathogens. AgNPs have various contemporary modes of action, and when used in conjunction with antibacterial agents such as chemical combinations or antibiotics, they have a synergic activity on bacteria pathogens. AgNPs have been extensively researched as components of sophisticated anti-cancer medications for improving cancer management in the clinic. The reduction of substances on silver ions often produces AgNPs. Living organisms and natural products, moreover, exceptional cascade for synthesizing AgNPs harbingers. AgNPs have properties that make them excellent for use in medical and healthcare goods, where they can effectively reduce the risk of developing infections. This review discusses the antibacterial and anti-cancer properties of AgNPs, and the benefits of using AgNPs as a novel, effective antibacterial combination with antibiotics, which will lessen the dosage required and avoid potential hazards.

Keywords: Protein films, Probiotics, Prebiotics, Active packaging, Edible films and coatings, Protein-based films, Bioactive compounds, Encapsulation, Probiotics

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