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## Fish gelatin nanoparticles and their food applications : A review (Short Survey)

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## Abstract

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Considerable attention has been directed to nanoparticles based on gelatin biopolymer due to its numerous available active group sites for attaching target molecules and acting as a drug or nutraceutical delivery system aiming to improve the therapeutic effects and also to reduce the side effects of formulated drugs as gelatin is a natural biodegradable biocompatible polymer, nontoxic, readily available, cheap and is used in parental formulations. With mammalian gelatin (pig and cow) as the major source of gelatin production, alternatives are required due to socio-cultural and health concerns to maintain halal status. This paper aims at reviewing fish skin gelatin from warm water species which can provide a potential alternative source of gelatin with almost the same rheological properties as mammalian gelatin and is a beneficial way to use fish waste such as skin, bones and fin which is generally discarded. The study also entails a lot of research being done in the field of nanoencapsulation of gelatin with various nutraceuticals as well as drug and gene therapy. There is an especially increasing interest in encapsulating biopeptides within gelatin nanoparticles in the functional food industry due to their role in preventing or delaying the onset of various diseases, food fortification, improvement of food quality, increase in shelf life, targeted peptide delivery and hence can be used as additives in food products. This review also attempts to provide an overview of the application of gelatin nanoparticles in nanoencapsulation in the food industry. © All Rights Reserved.

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