

A SYSTEMATIC REVIEW THE PREPARATION OF NANO CHITOSAN AND ITS FURTHER APPLICATION IN ANTI-TUMOR

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Summary

Nano-chitosan is the natural material prepared from chitosan that extracted from crustacean cells such as crab, shrimp,... and their molecular size from 1 to 100 nm. They possess bioactive-value, for example, antioxidant, antibacterial, antitumor, anticancer and useful for the biological support increasing the disease treatment capacity. The study focused on the preparing method of nano-chitosan and their application into the tumour treatment. There are five methods for nano-chitosan, for example, cross-linking, emulsion-drops, ionic, reversed-micelles, and sieving. Nano-chitosan preparation is by using the ionic method and the cross-linking method basing on the reaction between free amino groups of chitosan and polyanions, but not use the solvent for precipitating nano-chitosan in the ionic process. The reverse micelles method is nano-chitosan droplets in organic solvents and the surfactant. Their polar heads of the surfactants link the water and their tails link to the organic phase. The sieving method is base on the molecular size of nano chitosan. Nano chitosan particles preparing by over methods exhibit the good tumour activity and potential the apply into functional food and pharmaceuticals.

Keywords: *Antitumor, chitosan, crustacean, ionic gelation, nano.*