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Preparation of BSA nanoparticles by desolvation technique using ethyl alcohol as desolvating agent

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In order to see functionality and toxicity of nanoparticles in various food and drug applications, it is important to establish procedures to prepare nanoparticles of a controlled size. Desolvation, a thermodynamically driven self-assembly process for polymeric materials.Here BSA nanoparticles were prepared by desolvation technique using Ethyl alcohol as desolvating agent. In our study, Ethyl alcohol was added intermittently into 1% BSA solution under stirring at 700 rpm. Amount of Ethanol added, intermittent timeline of Ethanol addition, and pH of solution were considered as process parameters to be optimized. Effect of the process parameters on size of the nanoparticles were studied. The results indicated that the size control of BSA nanoparticle was achieved by adding Ethanol intermittently. The standard deviation of average size of BSA nanoparticles at each preparation condition was minimized by adding Ethanol intermittently. Particle size of BSA nanoparticles prepared by continuous addition of Ethyl alcohol as desolvating agent was in between 200-300nm.Whereas uniform particle size was obtained by adding Ethyl alcohol intermittently. The particle size was found to be in between 180-220nm.FTIR spectra Indicates that there was no drug and polymer interaction.

Biography

A.krishna sailaja is working as senior research scholar pursuing Ph.D in Osmania University Hyderabad in Pharmacy Department. She has published 13 papers in various national and international Journals. She has presented papers in One national and One International conferences. Previously she worked as Assistant Professor in Mallareddy college of Pharmacy and Mother Teresa college of pharmacy for a period of three years. Worked as Drugs Inspector in Drugs control administration Hyderabad for a period of 1 year. Worked as JRF and working as SRF in Osmania University

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Preparation and evaluation of transdermal drug delivery system of glibenclamide using modified chitosan ethyl alcohol as desolvating agent

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In the present investigation chitosan has been chemically modified by treating with two different aldehydes viz acetaldehyde and propionaldehyde to form Schiff's bases. Schiff's bases of chitosan with acetaldehyde and propionaldehyde were named as polymer $-P_1$ and polymer- P_2, respectively. FTIR have confirmed the reaction carried out on chitosan. Drug free polymeric films of chitosan, chemically modified chitosan and chitosan/HPMC blend were prepared and evaluated for various physicochemical characters. Further, the films were incorporated with anti-diabetic drug, glibenclamide using glycerol as plasticizer. The drug loaded films were studied for permeation characteristics across rat skin. All the films were evaluated for bursting strength, swelling index, moisture uptake, thickness uniformity, drug content uniformity, tensile strength, percent elongation at break, percent flatness, water vapour transmission rate (WVTR) and in vitro drug permeation study. The results were found to satisfactory. The present study demonstrates that glibenclamide transdermal patches could be prepared using chitosan, modified chitosan and chitosan/HPMC blend.

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