



International Journal of ChemTech Research CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555 Vol.12 No.03, pp 240-250, 2019

Preparation of cross-linked gum Nano spheres containing Gemcitabine by single step emulsion in place compound cross-linking technique and its tested with different analytical Techniques

Gunti Muthaiah¹, D.Ramachandran^{2*}

¹Research scholar, Department of Chemistry, Acharya Nagarjuna University, India ²Associate professor, Department of Chemistry, Acharya Nagarjuna University, India

Abstract : In the present work, guar gum nano spheres containing gemcitabine were ready and characterized for mistreatment it as a carrier for targeted drug delivery. Gemcitabine may be a glycoside metabolic substance that incontestible to own anti-tumor activity many solid tumours as well as gonad, breast, non-small cell respiratory organ, pancreatic cancers. Among others drug utilized in the Treatment of carcinoma. The compound administered to patients .Gemcitabine Single step emulsion in place compound crosslinking technique was used to arrange compound coated drug nanoparticles. Model compound utilized in this study was guargum g that is usually used for cancer specific drug delivery within the pharmaceutical business. Throughout preparation -different drug loading solvents were tried and DMSO and distil water provided the simplest drug loading result. Briefly, 5 mg drug was dissolved in DMSO associate degreed blended with aqueous solution of guar gum mistreatment span 80 as wetter. Cross-linking was created by the utilization of cross linker glutaraldehyde throughout the method. A core shell kind particles were discovered. Drug load was confirmed by FT-IR and quantitated by HPLC. Nanoparticles were further characterized for particle size and morphology. Particle size between 200 and 300 hundred nm were obtained. Influence of method variables on the scale of nanoparticles were studied. It absolutely was discovered that the concentration of compound and stabilizer determined the scale of nanoparticles. Keywords: DMSO, Guar gum, Nano sphere, gemcitabine Drug-loading polymer cross-linking

D.Ramachandran et al / International Journal of ChemTech Research, 2019,12(3): 240-250.

DOI= <u>http://dx.doi.org/10.20902/IJCTR.2019.120331</u>
