



Preparation and Evaluation of Lithium Carbonate Loaded PEA Microspheres for Controlled Drug Delivery

Manjunatha MALURE ¹, Jagdish R. LAXMIKANTHIAH ¹,
Gowda D. VISHAKANTE ² & Mohammed S. KHAN ^{2*}

¹ *Department of Studies in Polymer Science, Mysore University, Mandya, India*

² *Department of Pharmaceutics, JSS College of Pharmacy, JSS University, Mysore, India*

SUMMARY. The goal of any drug delivery system is to provide a therapeutic amount of drug (s) to the proper site in the body in order to promptly achieve and there by to maintain the desired drug concentrations during treatment. This idealized objective can be achieved by targeting the drugs to a specific organ or tissue with the help of controlling the release rate of the drug during the transit time in gastro intestinal tract. Poorly water-soluble drugs, which are lipophilic in nature easily, mix with PEA polymer and show good absorption rate. The PEA polymeric materials used in the current study have good pharmaceutical and biological properties; water is used to prepare PEA polymer microspheres by meltable dispersed emulsified cooling induced solidification method. Surface morphology of prepared microspheres has been evaluated using scanning electron microscopy (SEM). The SEM images revealed the spherical shape of microspheres with size ranges 339 μm to 357 μm . Differential scanning calorimetry and Fourier transform infrared spectroscopy studies indicated that the drug after encapsulation with PEA polymer was stable and compatible.

KEY WORDS: Controlled release, Lithium carbonate, Microspheres, PEA polymer.

* Author to whom correspondence should be addressed. *E-mail:* mshuaibkhan68@gmail.com