DEVELOPMENT AND STUDY OF A TRANSPORT AND CONTROLLED RELEASE SYSTEM OF INDOMETHACIN BASED ON A OF PEG/PVP COPOLYMER

Carlos A. Soto¹, Rubén C. Villarreal¹, M. A. Cosio¹, Martha M. Ornelas¹, C.M. Gómez¹, E. C. Arroyo², A. Olivas², P.A. Luque¹
¹Facultad de Ingeniería, Arquitectura y Diseño, UABC, C.P. 22860, Ensenada, B.C., México. ²Centro de Nanociencias y Nanotecnología - UNAM, Km. 107 Carretera Tijuana-Ensenada, CP. 22860, Ensenada, B.C. México.

This work reports the effects of drug release systems based on different polymers for the treatment of cell carcinoma [1]. The materials used for encapsulation of indomethacin were various combinations of polyethylene glycol (PEG) and polyvinylpyrrolidone (PVP), varying their mass ratios. These systems were characterized via infrared spectrometry of Fourier transform (FT-IR) and transmission electron microscopy (TEM). The morphology showed the treated polymeric micelles as spheres. Drug loading is carried out via the absorption in solution method; ea). The morphology showed that this load of indomethacin had a ratio of 1:10 against the polymers [2]. Drug liberation tests were performed via the dialysis method, using 10X PBS (phosphate buffered saline) as a release medium, with a pH of 7.2 at 32 °C, and 100 RPM. The drug concentration was determined via UV-Vis spectroscopy, and additionally, a mathematical model was developed based on diffusion equations to describe the phenomenon.

Keywords: Indomethacin, Polyethylene glycol, Polyvinylpyrrolidone

References:


Presenting author’s email: carlos.soto12@uabc.edu.mx