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PREDICTING THE STABILITY OF TENOXICAM IN CAP MICROSPHERES BY IR & DTA ANALYSIS

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One of the most significant side effects of oral dosage forms is their irritative effect on stomach mucosa. This problem can be solved introducing enteric coating. In this study, enteric microspheres were prepared for this purpose according to the solvent evaporation technique using CAP. Tenoxicam (TNX) is an anti-inflammatory drug causing irritation on stomach mucosa upon p.o. administration in the form of a tablet or a hard gelatin capsule. In order to determine whether any interaction occurs between the polymer and the drug, it was suggested to perform IR and differential thermal analysis on enteric-coating material: CAP, TNX and physical mixture of these two substances. Data revealed that there is no interaction between the coating polymer and the drug upon microspherization.

PHYSICOCHEMICAL CHARACTERIZATION OF IBUPROFEN SOLID DISPERSIONS

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Ibuprofen (Ib) is a safe non-steroidal anti-inflammatory drug (NSAID) for the treatment of a wide range of indications, including pain, fever, inflammation, arthritis, and dysmenorrhea. Ib's main mechanism of action is known to be the inhibition of prostanoid biosynthesis via blockade of cyclo-oxygenase (COX). The COX enzyme exists as two isoforms. COX-1 is a constitutive protein found in most cells and plays an important role in the regulation of prostaglandins that are involved in the protection of the lining of the gastrointestinal tract. It's a well-known fact that the inhibition of COX-1 contributes to gastric ulceration. That is the most frequent side effect of NSAIDs. Ib has been found to inhibit both COX-1 and COX-2 isoforms. Formation of a solid dispersion with skimmed milk using the technique of Topaloglu et al. could reduce gastric side effect. With all these in mind, we decided to prepare solid dispersion of Ib. In order to determine the interaction between Ib and skimmed milk (SM), DSC and DTA studies were performed on the SD of Ib as well as its individual componentsThe data for Ib showed one endothermic peak at 75°corresponding to its melting point whereas SM's peak has been shown to be 165°C. The DSC and DTA plots of the SD indicated that the formation of a bond between Ib and SM occurred. Disappearance of the specific peak of the drug showed that the drug has interacted with the carrier. The FTIR pattern of the plain drug, SM and solid dispersion were also obtained