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FLOATING DRUG DELIVERY SYSTEM

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Abstract
In the recent years, scientific and technological advancements have been made in the research and development of novel drug delivery systems by overcoming physiological troubles such as short gastric residence times and unpredictable gastric emptying times. FDDS is one of the techniques which shows prolong gastric retention by the principle mechanism of floatation. Several approaches are currently utilized in the prolongation of the gastric residence times, including floating drug delivery systems, swelling and expanding systems, polymeric bioadhesive systems, modified-shape systems, high-density systems and other delayed gastric emptying devices.

Keywords: Gastric retention time (GRT), Effervescent, bioadhesive, hydrodynamically.

Introduction
Gastric emptying is a complex process and makes in vivo performance of the drug delivery systems uncertain. In order to avoid this variability, efforts have been made to increase the retention time of the drug-delivery systems for more than 12 hours. The floating or hydro-dynamically controlled drug delivery systems are useful in such application.
FDDS reside in the stomach for a longer period of time than conventional dosage forms. One of the several difficulties faced is the inability to confine the dosage form in the desired area of the gastrointestinal tract. The extent of gastrointestinal tract drug absorption is related to contact time with the small intestinal mucosa. Thus, small intestinal transit time is an important parameter for drugs that are incompletely absorbed. Prolonged gastric retention improves bioavailability, reduces drug waste and improves solubility for drugs that are less soluble in a high pH environment. It has applications also for local drug delivery to the stomach and proximal small intestines. The controlled GRD forms may be achieved by the mechanisms of (1) muco-