



The gastrointestinal stability of lipid nanocapsules

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The in vitro gastrointestinal stability of lipid nanocapsules (LNCs) was studied in different media. The size of LNCs was determined in simulated gastric and intestinal media. In updated fasted state simulated intestinal fluid (FaSSIF-V2) and updated fed state simulated intestinal fluid (FeSSIF-V2) media, the encapsulation ratio of paclitaxel-loaded LNCs was also measured. The size of LNCs was not modified after 3h in simulated gastric fluid and simulated intestinal fluid described by the United States Pharmacopeia, in FaSSIF, FaSSIF-V2, and in FeSSIF. Moreover, in the presence of pancreatin in FeSSIF-V2, a decreased above 30% of the loading of paclitaxel was observed. This was attributed to the presence of lipase in pancreatin that could interact with Lipoid (a mixture of phosphatidylcholine and phosphatidylethanolamine), present on the shell of LNC. As a conclusion, LNCs were stable on gastric medium and fasted state intestinal medium.

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Liens

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