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FORMULATION AND EVALUATION OF NANOPARTICLES CONTAINING ANTI-COVID DRUGS FOR CONTROLLED DRUG RELEASE

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Abstract

Favipiravir belongs to Biopharmaceutics Classification System Class I drug that has higher solubility and higher permeability. The drug needs to be administered frequently (2-3 times a day) total 1800 mg drug /day and also have shorter half life it means the drug is eliminating from the body in 2-4.5 hrs. The present study was to overcome the half life of favipiravir . So, it is formulated into nano-particles were prepared using a hydrophobic polymer-ethyl cellulose by modified solvent evaporation technique. Optimized formulation was selected and prepared into a tablet formulations using different excipients which control the drug release. The favipiravir loaded nanoparticles were sent to (FT-IR) studies and it shown the absence of interactions of drug with other excipients and also other studies like DSC, SEM. At the end of the 10th hour, F1-F6 formulations released 84.71%–96.43% of the drug. Among all the formulations F6 was chosen as a best formulation and used to prepare a various controlled release tablets. Based on many evaluation studies, the best tablet formulation was chosen.
The in vitro dissolution drug release of drug was controlled over extended period of time which was affected by the polymer and its amount of polymer.

Keywords: Nanoparticles , favipiravir , Ethyl cellulose, controlled release, covid -19

Biography

S.Abhishek has his own experience in valuation and passion for ML and data. The research team built this model after many years of experience in research, evaluation, work in both hospitals and scientific laboratories. This approach meets all the requirements for precise, specific, sensitive diagnostics.

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