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Design and evaluation of oral controlled release mucoadhesive microspheres of didanosine

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The present work was carried out for targeted delivery of drug in a controlled manner in gastro-intestinal tract by mucoadhesion and to reduce the dosing frequency .Formulation of Mucoadhesive Microspheres was carried out by taking Drug-Didanosine (anti- viral/BCS CLASS-III), along with polymers for muco-adhesion such as HPMC K4M and Carbopol 934P(F1andF2) respectively. The prepared microspheres were evaluated by various evaluation tests such as Determination of Particle size(F1-Average particle size was reported as 502±1.20 and F2 was 510±1.36, Swelling index was reported upto 8 hours with an interval of each one hour (Swelling index reported after 8 hours for F1-0.82 and F2-0.96) , Drug content(F1 52.36 %w/v and F2 56.48 %w/v),Entrapment efficiency(F1 52.36±0.21 and F2 56.48±0.36), In-vitro drug release studies(cumulative percentage release after 8 hr was 76.264% and 80.312% for F1 and F2) and In- vitro wash off test to assess Mucoadhesive properties of Microspheres (% mucoadhesion varied from F1 –F2 after 6hr as 45%-38%).From these experimental results F2 showed maximum % yield.

Biography

K. Mani Madhuri is pursuing her M.pharm 1st year in Yalamarty college of pharmacy, Visakhapatnam and completed her B.Pharm in Roland Institute of Pharmaceutical Sciences had published a review article on Mucoadhesive Drug Delivery System in APTI Convention and also presented a research article in the National Seminar held in Bhuvaneswar.

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Structure based drug design for cytochrome-b to treat cataract

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Cytochrome-b is a protein that causes cataract in human beings. The drug to treat this defective protein has not yet been discovered. The structure of this protein was also unknown. The structure for this protein, cytochrome-b is modeled using the techniques available in molecular modeling. Further, certain drugs in the market to treat cataract are selected and their similar chemical structures available are docked with the modeled molecule to check whether the protein (receptor) and the drug molecule (ligand) binds sufficiently. We also suggest that the best docked drug chosen by screening method can be studied in the wet laboratory for practical assessment of the quality of the new drug to treat cataract.

Keywords: Cytochrome-B, Cataract, SWISS-PROT, NCBI-BLAST, PIR, FASTA and SPDBV.

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Isolation and characterization of Bacillus isolates to determine their mechanisms of antagonism against Fusarium solani *in vitro*

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Fusarium solani is a phytopathogenic fungus and is an important causal agent of various economic crop diseases, such as root and stem rot of pea, root and fruit rot of Cucurbita spp., sudden death syndrome of soybean, foot rot of bean and dry rot of potato. The fungus, F. solani also a casual agent of tomato plant, is considered one of the most important pathogens a worldwide. Recently studies have verified the antagonistic capacity of diverse bacterial isolates against F. solani. In this study, we have identified the Bacillus isolates and determine the mechanisms of antagonism against F. solani. Tests were done and consisted in determining the production of volatile metabolites, siderophores, and the effect of different culture temperatures and pH on the production of diffusible metabolites and inhibition of pathogens. The Bacillus isolates showed volatile metabolites and siderophore production as possible mechanisms of antagonism.

Biography

Faheem Ahmad has been a student at Aligarh Muslim University, one of the famous central universities of India. He completed his PhD in Botany (Plant Pathology) from Aligarh Muslim University and first postdoctoral studies from National Sun Yat-Sen University, Taiwan. He is now a Post-doctoral Fellow at North-West University, South Africa.

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