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Biochemical analysis and antimicrobial activity of Haemolymph of indian horseshoe crab Tachypleus gigas of chandipur beach in Odisha

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The biochemical composition and anti microbial activity of haemolymph of thirty one adult horseshoe crab (Tachypleus gigas) of chandipur coast of odisha was studied. The maen haemolymph total glucose,protein,creatinine,cholesterol value were found to be 58.0+_12.6mg/dl,8.9+_2.7gm/dl,0.5+_0.2mg/dl and 0.7+_0.2mg/dl respectively.The mean alkaline phosphate enzyme activity value was 11.7+_1.7u/l.The biochemical composition of T.Gigas was found to be quite similar to the value reported in the limulus polyphemus species of horseshoe crab found along the east coast of USA.The similar haemolymph biochemical environment warrants the possibilities of exploitation of amoebocyte lysate of Indian species for bacterial endotoxin detection in pharmaceutical industries and many sector. The same haemolymph also stop the growth of gram negetive bacteria specially E.Coli due to its antimicrobial activity

Design and development of colon targeted drug delivery system of diclofenac sodium

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Colonic drug delivery refers to targeted delivery of drugs into the lower gastro intestinal tract, which occurs primarily in the large intestine i.e., colon. Targeted drug delivery to the colon would therefore ensure direct treatment at the disease state, lower dosing and fewer systemic side effects. In addition to local therapy, the colon also be utilized as a portal for the entry of drugs into the systemic circulation.

Colon targeted delivery of drugs has recently gained importance in adversing scientific needs in the therapy of colon based diseases. Many techniques have been tried for the development of colon targeted drug delivery system, with not much success in the past. Present research into the utilization of the metabolic activity and the colonic environment in the lower gastro intestinal tract has attained immense value in the design of novel colon targeted drug delivery system by the utilization of natural bio-degradable polymers. Successful delivery through this colon also requires the drug to be in the solution form before it reaches into the colon or alternatively it should dissolve in the luminal fluids of the colon, but this can be a limiting factor for poorly water soluble drugs as the fluid volume in the colon is much lower and form more viscous in the upper part of the gastro intestinal tract. In such instances, the drug may need to be delivered in a pre-solubilized form or delivery should be directed to the proximal colon as a fluid gradient exists in the colon with more free water present in the proximal attention. In order to formulate a suitable dosage form, the mechanisms and effective parameters need to be a tracit and clarified. Therefore, formulation, technologies involved in the fabrication, various mechanisms, characterization and application of colon targeted drug delivery system and also discussed in the inclusion of organic acid in the formulation which would enhance the solubility in the luminal fluids of the colon and the results of recent researches on the colon targeted drug delivery system.