International Journal of ChemTech Research
CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.11 No.11, pp 323-328, 2018

Formulation and Evaluation of Sustained Release Matrix Tablet of Antiviral Drug by Natural polysaccharide

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Abstract : The aim of this investigation was to develop and optimize Antiviral matrix tablets for sustained release application. The sustained release matrix tablet of Acyclovir was prepared by wet granulation technique using Colocasia esculenta corms polysaccharide. The polysaccharide obtained after extracted from natural source and evaluated for their colour, viscosity and pH.The prepared tablet was evaluated for their hardness, friability, drug content, *In vitro* dissolution, swelling studies. Effect of different natural polymers on the drug release from the tablet was studied. The optimized Formulation F-1 shows up to 97% of drug release in 720 min. whereas formulation F-6 shows 85 % of drug release in 720 min. which shows Formulation F-1 and F-6 shows the sustained release of drug up to extended time. The drug release from the tablet was sustained and non-Fickian transport of drug from the tablet was confirmed. Using Higuchi's Model and the Korsmeyer equation, the drug release mechanism from the sustained release tablets was found to be Anomalous (non-Fickian) diffusion. Compatibility study confirmed that interactions do not exist between the drug and polymer.
Keywords: *Acyclovir, matrix tablet, Sustained Release, Colocasia esculenta, Natural Polymer*.

Pooja Soni *et al* /International Journal of ChemTech Research, 2018,11(11): 323-328.

DOI= http://dx.doi.org/10.20902/IJCTR.2018.111136

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