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# Formulation and evaluation of sustained Release Isoniazid Tablet effect of natural polysaccharide on drug release mechanism

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**Abstract :** The aim of this study was to evaluate the binding efficiency of mucilage extracted from *Dioscorea alata* (water yam). The sustained release matrix tablet of Isoniazid was prepared by wet granulation technique using *Dioscorea alata* Linn. polysaccharide. The polysaccharide was extracted from the tuber via maceration method and evaluated for their color, viscosity and pH. The prepared tablet was evaluated for their hardness, friability, drug content, swelling studies and In vitro dissolution rate. Optimized Formulation F2 and F3 was exhibited satisfactory results as 95 % and 91 % in 12 hrs. whereas formulation F-5 shows 85 % of drug release in 12 hrs. 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 :** Isoniazid matrix tablet, Sustained Release, *Dioscorea alata* linn. Polysaccharide.

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