

**STUDY ON LOCAL INDONESIAN CORN STARCH AS BINDER  
IN TABLET FORMULATION**

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## ABSTRACT

A study on binding and disintegrating properties of local Indonesian corn starch used as excipient in tablets had been carried out. In this study, a comprehensive study was employed to test the performance of starch as a binder in tablets. The starch was isolated from local corn, and was characterized as pharmaceutical grade excipients. The tablets were prepared using various concentrations of starch as binder (5, 10 and 15%). Theophyllin was used as model drug and were compressed using wet granulation method. The binding and disintegrating capacity of these excipients were assessed by determining the HFR/DT (*Hardness-Friability-Disintegration Time*) value. Likewise, the swelling and gelling property was also assessed by viscoamlograph study. The studies indicated that this starch is qualitatively and quantitatively comparable to marketed corn starch. With regard to the increase of concentration, the disintegration time of tablets were increase in accordance with concentration. Tablets with marketed corn starch as standard showed slower disintegration time. In general, tablets prepared using local Indonesian corn starch met the requirements of uniformity of weight, friability and hardness. These tablets also conformed to the disintegration and dissolution specifications of Indonesian Pharmacopoeia.

Key Words: *Corn Starch, Physicochemical properties, Binding and disintegrating properties, HFR/DT (Hardness-Friability-Disintegration Time)*