

Inhibitory activity on uric acid formation by *Mimosa pudica* tablets

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ABSTRACT

Mimosa pudica L. (Family Mimosaceae or Fabaceae) has been proven in reducing uric acid level. Previous work of Nguyen and colleagues concluded that the methanol extract of this plant showed inhibitory activity on xanthine oxidase (IC₅₀ 52.7 ppm), therefore this extract could be developed as pharmaceutical dosage form and assayed for its activity. In this work we developed *Mimosa pudica* L. tablets using Vivapur®PH102 and studied the inhibitory activity of the tablets on uric acid formation by measuring its absorbance at 292 nm. *Ex vivo* study was performed by measuring the concentration of uric acid in oxonic calcium and chicken liver juice induced-mice blood after the mice were treated with *Mimosa pudica* L. extract tablets. Allopurinol was used as drug control. *Mimosa pudica* L. extract tablets containing the highest Vivapur®PH102 (86%) showed the shortest disintegration time (1 minute 40 seconds). The tablets inhibited uric acid formation (IC₅₀ of *Mimosa pudica* tablet = 5.381 ppm, IC₅₀ of the extract = 3.5202 ppm). Its inhibitory activity is weaker than allopurinol (IC₅₀ of allopurinol = 2.181 ppm). *Ex vivo* study showed that *Mimosa pudica* L. extract tablets 125 mg/kg of body weight reduced 36% of uric acid level in hyper-urisemic mice ($\alpha=0.05$).

Keywords: allopurinol, gout, hyperurisemic, xanthine, xanthine oxidase