

รายงานการวิจัย  
(ฉบับสมบูรณ์)

เรื่อง

ผลของสารสกัดจากใบกระท่อมต่อฤทธิ์แก้ปวด  
และพฤติกรรมในสัตว์ทดลอง

**Effects of the Extracts from *Mitragyna speciosa* Korth.**

**Leaves on Analgesic and Behavioral Activities in  
Experimental Animals**

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## Abstract

The leaves of *Mitragyna speciosa* Korth. (*M. speciosa*) were extracted with methanol to give methanol extract. The methanol extract was made in acid and then in alkaline and extracted with chloroform to give alkaloid extract. The effects of the methanol and alkaloid extracts on analgesic activities in hot plate test in mice and tail flick test in rats and behavioral activities in locomotor activity and pentobarbital-induced sleep in mice, were examined. In acute toxicity test, the LD<sub>50</sub> values of oral administration of the methanol and alkaloid extracts of *M. speciosa* leaves in mice were 4.90 g/kg and 173.20 mg/kg, respectively. Oral administration (50, 100 and 200 mg/kg) of the methanol extract of *M. speciosa* leaves significantly prolonged the latency of nociceptive response on hot plate test in mice. The alkaloid extract of *M. speciosa* also increased the pain response latency at the dose of 20 mg/kg but less potent than those of the methanol extract (100 mg/kg) in mice (comparing 5-10 mg/kg alkaloid extract with corresponding to approximately 200 mg/kg of methanol extract). The antinociceptive action of either methanol extract (100 mg/kg, p.o.) or alkaloid extract (20 mg/kg, p.o.) of *M. speciosa* leaves was blocked by naloxone (2 mg/kg, i.p.) in mice. Neither the methanol extract nor the alkaloid extract significantly prolonged latency of nociceptive response on tail flick test in rats. Both of the extracts had no significant change on spontaneous motor activity or pentobarbital-induced sleep in mice, respectively. These results suggest that the methanol and alkaloid extracts of *M. speciosa* leaves possess the analgesic activity which partly acted at opioid receptors in the supraspinal opioid system.