

Spasmolytic Flavonoids from *Syzygium samarangense* (Blume) Merr. & L.M. Perry

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The hexane extract of *Syzygium samarangense* (Ss.Hex) dose-dependently (10–1000 $\mu\text{g/ml}$) relaxed the spontaneously contracting isolated rabbit jejunum. Four rare C-methylated flavonoids with a chalcone and a flavanone skeleton were isolated from Ss.Hex and were subsequently tested for spasmolytic activity. All flavonoids, identified as 2'-hydroxy-4',6'-dimethoxy-3'-methylchalcone (**1**), 2',4'-dihydroxy-6'-methoxy-3',5'-dimethylchalcone (**2**), 2',4'-dihydroxy-6'-methoxy-3'-methylchalcone (**3**), and 7-hydroxy-5-methoxy-6,8-dimethylflavanone (**4**), showed dose-dependent spasmolytic activity in the rabbit jejunum with IC_{50} values of 148.3 ± 69.4 , 77.2 ± 43.5 , 142.4 ± 58.6 and $178.5 \pm 37.5 \mu\text{g/ml}$ (mean \pm SEM), respectively. The dihydrochalcone derivative of compound **1**, 2'-hydroxy-4',6'-dimethoxy-3'-methyldihydrochalcone (**5**), when tested for spasmolytic activity, did not significantly relax the smooth muscle relative to the other compounds. Verapamil, a standard spasmolytic, has an IC_{50} value of $0.16 \pm 0.04 \mu\text{g/ml}$. This is the first report of the relaxant activity of chalcones, specifically of compounds **1–3**.

Key words: *Syzygium samarangense*, Flavonoids, Spasmolytic Activity