Conference abstract SL-25

Antiasthmatic Compounds Isolated from Antiasthmatic "JAMU" Ingredient Legundi Leaves (*Vitex trifolia* L.)

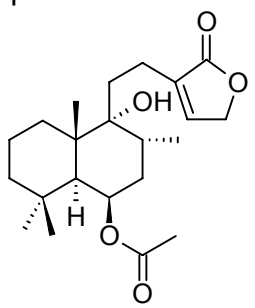
S. WAHYUONO [1], G. ALAM [2], Z. IKAWATI [1], H. TIMMERMAN [3], K. MAEYAMA [4]

[1] Faculty of Pharmacy, Gadjah Mada University, Yogyakarta, Indonesia
[2] Faculty of Pharmacy, Hasanuddin University, Ujung Pandang, Indonesia
[3] LACDR-Vrije Universiteit, Amsterdam, Netherlands
[4] Dpt. Pharmacology, Ehime Univ., School of Medicine, Shigenobu-cho, Onsengun, Ehime 791-0295, Japan

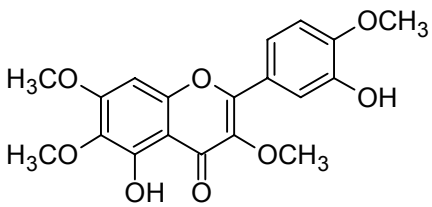
E-mail: Subagusw@yahoo.com (S. Wahyuono)

Sci Pharm. 2009; 77: 192 doi:10.3797/scipharm.oephg.21.SL-25

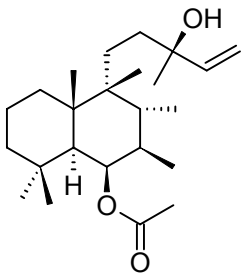
"JAMU" Indonesian traditional medicine preparations have been utilized extensively by Indonesian people. Due to lack of scientific and clinical data, JAMU has not been recommended for formal medication although it has been practiced long before recorded history. Therefore, this study aimed to screen those plant materials (0.25 and 0.50 mg/ml, n=3) for tracheospasmolytic activity in vitro (spasms induced by histamine 10-7-10-3 M) in order to obtain the promising active compounds to be studied for their mechanisms of actions. The leaves of Vitex trifolia were among the most promising material and further studied. By bioassay guided isolation, 3 compounds were isolated and identified as viteosin-A (1), vitexicarpin (2) and vitetrifolin-E (3) based on their spectroscopic and literature data. Compound 2 was the most active as compared to 1 and 3 in a tracheospasmolytic test using sensitized (ovalbumin 5, 50, 500, 5000 ng/ml, n=3) guinea pig trachea. These compounds were not harmful to the organ as it was proved by inducing the organ after the test with carbachol, followed by saturated KCl. Their mechanism seems to be non-competitive antagonistic to histamine, and the compounds are possibly able to stabilize the mast cells membrane function. Upon testing of those compounds (1 x 10-4 M) on RBL-2H3 (Rat Basophilic Leukemia cells represent mucosal mast cells) induced by DNA-BSA (Dinitrophenylated Bovine Serum Albumin), compound 2 still showed the strongest effect to inhibit the histamine release as compared to that of 1 and 2.



1



2



3

Presented at the 21st Scientific Congress of the Austrian Pharmaceutical Society
April 16th to April 18th 2009, Vienna, Austria.