International Seminar & Expo on Jamu 2010

Organized by :
Faculty of Pharmacy Universitas Padjadjaran

Herbal Medicines : Indigenous, Molecular Aspects, and Clinical Application

PROCEEDING

Faculty of Pharmacy, Universitas Padjadjaran

ISBN 978-602-96121-1-0

Proceeding

The International Seminar and Expo on Jamu 2010 (ISEJ 2010)
"Herbal Medicines : Indigeneous, Molecular Aspects, and Clinical Application"

Edited by:
Faculty of Pharmacy, Universitas Padjadjaran

Published by:
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ISBN 978-602-96121-1-0

Foreword from Dean of Faculty of Pharmacy Universitas Padjadjaran

Dear Delegates,

On behalf of the Conference Committees, I would like to thanks for your participation in The International Seminar and Expo 2010, which take place from November 5th-6th 2010, at Bandung, Indonesia. This seminar of "Herbal Medicines: Indigenous, Molecular Aspects, and Clinical Application" offer a comprehensive understanding of utilization of herbal medicines from various aspects, including those associated with their regulation, traditional use, chemical analysis, biological activity, mechanism of action, and clinical application.

This proceeding is consist of approximately 34 papers. We thanks to The President of Universitas Padjadjaran, Prof. Dr. Ganjar Kurnia, DEA.; The Dean of Faculty of Pharmacy of Universitas Padjadjaran, Prof. Dr. Anas Subarnas, M.Sc., Apt.; and all the authors that participated in this conference for all their support and contribution in publishing this proceeding.

As the organizing committee, we greatly appreciate your participation in The International Seminar and Expo 2010. We look forward to meeting you and welcoming you again in our next meeting.

Bandung, November 5th 2010.
Sincerely,

Prof. Dr. Anas Subarnas, M.Sc., Apt.
Dean of Faculty of Pharmacy
Universitas Padjadjaran

Content

International Seminar and Expo on Jamu
ISEJ 2010
Bandung, Indonesia, 5-6 November 2010

THE ANTI-HYPERTENSIVE EFFECT OF ISOLATE FROM ACTIVE FRACTION OF ROSELLE *(Hibiscus sabdariffa* L.*)* ON WHITE MALE RATS

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Abstract

Roselle (*Hibiscus sabdariffa*) is a medicinal plant that have long been used for treating hypertension. The previous study had been known that the ethyl acetate fraction of roselle calyces showed the strongest antihypertensive effect if it was compared with n-hexane fraction and ethanol fraction. This research has purpose to know the antihypertensive effect of isolate from ethyl acetate fraction of roselle calyces in white male rats. The isolation process was started with extraction of crude material continuously by Soxhlet apparatus using n-hexane, ethyl acetate, and ethanol. The ethyl acetate extract was fractionated by vacuum liquid chromatography (VLC) and column chromatography, followed by isolation using preparative thin layer chromatography yielding HS-II-B_1, HS-II-B_2 and HS-II-B_3. The experiment of antihypertensive effect of each isolate was done using indirect method at dose of 30, 60 and 20 µg/kg of body weigt successively. Captopril at dose of 4.5 mg/kg of body weight was used as a positive control. Hypertension was induced by administrating of adrenalin at a dose of 1.2 µg/kg of body weight to the testing animal. The oral administration of each isolate showed the activity of reduction in systolic blood pressure successively 27.20 %; 18.76 and 16.05 % (ANAVA $p > 0,05$), whereas the activity of reduction in diastolic blood pressure at the same dose successively 25.09 %; 21.22 % and 8.93 % (ANAVA $p < 0,01$), both was compared with negative control. The antihypertensive activity of each isolate could be arranged based on the average of percentage of reduction in systolic and diastolic blood pressure, successively was Hs-II-B_1, Hs-II-B_2 dan HS-II-B_3.

Keywords: Anti- hypertensive, Roselle calyces, *Hibiscus sabdarifffa*

1. INTRODUCTION

Hypertension is one of the most prevalent and important health problems in developed as well as in developing countries. Overall,18–54% of the world's population [Faraji dan Tarkhani, 1999]. Commonly, hypertension is one of the number one cause of death because hypertension can not be detected and doesn't show specific symptoms. Because of this, hypertension usually called "the silent killer" [Maryadi, 2007].

Hypertension treatments in developed country aren't satisfied yet, even in many countries, control of hypertension only 8% [Depkes RI, 2007]. WHO's data showed that from 50% known hypertension patient, only 25% were treated, and only 12.5% were treated well [Kuswardhani, 2006].

Pharmacological treatment of hypertension using chemical drugs usually have multiple side effects such as vertigo, depression, congestive heart failure, hallucination, tachycardia, angina, hypokalemia, gastrointestinal disturbances and leukopenia [Faraji and Tarkhani, 1999]. Using of diuretics thiazide can alter glucose metabolism (insulin resistance) and increasing the risk of type II diabetes [Gormer, 2007]. Therefore, WHO recommends of using traditional medicines including herbal