

**Search for bioactive compounds from plants of Vietnam and Laos:
A paradigm for an international cooperation** (Oral Presentation)

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Introduction

An international collaborative project was in operation for the period of 1998-2005, with member institutions based in the United States (University of Illinois at Chicago; Purdue University), Vietnam (Institute of Ecology and Biological Resources, Institute of Chemistry, Institute of Biotechnology of the Vietnamese Academy of Science and Technology, Hanoi; Cuc Phuong National Park, Ninh Binh), and Laos (Traditional Medicine Research Center, Ministry of Health, Vientiane), and with an industrial partner based in the United States (Bristol-Myers Squibb, New York).

Objectives

To discover new molecules from plants of Vietnam (Cuc Phuong National Park) and medicinal plants of Laos as potential candidates for pharmaceutical development for therapies against cancer, AIDS, tuberculosis, and malaria.

Methods

Semi-random collection of flowering plants at Cuc Phuong National Park was undertaken; field ethnobotanical interviews were performed among communities and healers throughout Laos and samples documented by voucher herbarium specimens were collected. Samples were extracted using a standardized protocol, the extracts tested against the four stated disease systems. Active species were recollected in a larger quantity for bioassay-guided fractionation and isolation of the active compounds.

Results

During the 7-year period of operation, more than 280 molecules with antimalarial, anti-TB, anti-HIV and anticancer activities have been isolated from plants of Vietnam and medicinal plants of Laos. The project has also contributed significantly to the knowledge of natural products chemistry with 80 new secondary metabolites being reported for the first time from higher plants.

Conclusion

The uniqueness of this project lies in its design, where by drug discovery effort is integrated with conservation and economic development endeavors, while adhering strictly to the principles of the United Nations Convention on Biodiversity. This project serves as a paradigm for future effort in the study of the biodiversity for its potential in contributing to the welfare of man.

Keywords: Bioactive compounds; plants of Vietnam; medicinal plants of Laos; cancer; AIDS; tuberculosis; malaria; international cooperation

Selected references: Soejarto, D.D. et al. (1999) Studies on biodiversity of Vietnam and Laos: The UIC-based ICBG Program. *Pharmaceutical Biology* 37, Supplement, pp.100-113.

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