

Title: *In Vivo* Antimalarial Activity of Crude Extracts from Medicinal Plants

Name: **Asst. Prof. Dr. Voravuth Somsak**
School of Allied Health Sciences, Walailak University, Nakhon Si Thammarat 80161, Thailand

Malaria is still one of the most deadly parasitic disease, having a high rate of incidence and mortality across the world. The spread and development of resistance against chemical insecticides is one of the major problems associated with malaria treatment and control. Hence, plant based formulations may serve as an alternative source towards development of new drugs for treatment of malaria. The present study was aimed to validate the medicinal plant extracts against *Plasmodium berghei* infected mice as *in vivo* model. Crude extracts of the selected plants were prepared and tested for acute toxicity. The antimalarial including prophylacitc, chemosuppressive, and curative activities of these extracts were evaluated. When oral administered, no adverse and toxic effects were noted for these plant extracts ranging from 1,000-2,000 mg/kg doses signifying the safety in mice via oral route. Moreover, good chemosuppressive, moderate prophylacitc and curative activities against P. berghei infected mice of these extracts were observed. Additionally, protection body weight loss, hematological abnormalities, and prolonged mice mean survival time were also considered. The finding supports the traditional use of the plants for the treatment of malaria, and could serve as the potential source of new and novel antimalarial leads for the treatment and prevention of malaria.

Recent Publications

1. Nakinchat S and **Somsak V**. (2018). A Pilot Study on Antimalarial Effects of *Moringa oleifera* Leaf Extract in *Plasmodium berghei* Infection in Mice. Walailak J Sci Technol. 15 (2).
2. **Somsak V** and Nakinchat S. (2018). Antimalarial, Anti-hemolytic, Hepatoprotective, and Nephroprotective Activities of *Gynostemma pentaphyllum* Leaf Extract in *Plasmodium berghei* Infection in Mice. Walailak J Sci Technol. 15 (2).
3. **Somsak V**, Borkaew P, Klubsri C, Dondee K, Bootprom P, Saiphet B. (2016). Antimalarial Properties of Aqueous Crude Extracts of *Gynostemma pentaphyllum* and *Moringa oleifera* Leaves in Combination with Artesunate in *Plasmodium berghei*-Infected Mice. J Trop Med.
4. **Somsak V**, Polwiang N, Chachiyo S. (2016). *In Vivo* Antimalarial Activity of *Annona muricata* Leaf Extract in Mice Infected with *Plasmodium berghei*. J Pathog.
5. Nutham N, Sakulmettatham S, Klongthalay S, Chutoam P, **Somsak V**. (2015). Protective Effects of *Tinospora crispa* Stem Extract on Renal Damage and Hemolysis during *Plasmodium berghei* Infection in Mice. J Pathog.

Biography

Voravuth Somsak has completed my PhD in Biochemistry from Chiang Mai University in 2011 with the malarial research expecially genetic engineering of malaria parasite and discovery of plant extracts to have antimalarial activity using malarial-mouse model as a tool. I am a Vice Dean and the Director of Research Department, School of Allied Health Sciences, Walailak University, Nakhon Si Thammarat, Thailand. Publications related to malaria researches have been published in

PubMed. Voravuth Somsak has expertise in malaria research in mouse model including development and discovery the medicinal plant extracts to exert antimalarial activity. Additionally, generation of transgenic *Plasmodium berghei* in mice as *in vivo* model for antimalarial drug screening has been done. So far, malaria researches including prophylactic, suppressive, and curative activities of medicinal plant extracts as well as toxicity in mice against malaria mouse model are working on.

Presenting author details
Full name: **Asst. Prof. Dr. Voravuth Somsak**
Email: **voravuthsomsak@gmail.com or voravuth.so@wu.ac.th**
Contact number: **+66 (0)89800 9939**
Twitter account: -
Linked In account: **https://www.linkedin.com/in/asst-pro-voravuth-somsak-ph-d-353a4537/**
Session name/ number: -
Category: **Oral presentation**