
BIOGRAPHICAL SKETCH

NAME: Prachumsri, Jetsumon (Sattabongkot)

POSITION TITLE: Director, Mahidol Vivax Research Unit, Center of Excellent for Malaria

eRA COMMONS USER NAME (credential, e.g., agency login): JETSUMON

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Chulalongkorn University, Thailand	B.S.	10/82	General Sciences
Mahidol University, Thailand	M.S.	05/86	Microbiology
Mahidol University, Thailand	Ph.D	05/96	Biology

A. Personal Statement

I have been working on malaria research in endemic areas since 1985. As the Director of the Mahidol Vivax Research Unit I lead a research team with more than 30 years combined experience in malaria epidemiology, malaria diagnosis by microscopy, *in vitro* culture of different stages of human malaria and study of gametocyte and mosquito stages of human malaria. We are one of a few groups in the world that consistently work on the *P. vivax* parasite, which cannot be simply continuously cultured in the laboratory. Under my direction the team has participated in many consortiums working on *P. vivax* as the selected reference laboratory and the only laboratory that can evaluate the efficacy of transmission blocking vaccine candidates against *P. vivax*. We are able to access malaria patients and perform research on human malaria. My unit's unique capacity to do research on *P. vivax* biology, especially at the transmission stages including gametocyte and sporogonic development in mosquito vectors, have contributed to the progress on *P. vivax* research and other human malaria .

B. Positions and Employment

- May 1985- Feb 2011 Chief, Laboratory Science Section, Department of Entomology, USA Medical Component, Armed Forces Research Institute of Medical Science, Bangkok, Thailand
- Mar 2011-present Director, Mahidol Vivax Research Unit, Faculty of Tropical Medicine, Mahidol University, Bangkok Thailand

Patent Issued: US Patent No. 7,015,036 dated March 21, 2006. Human Hepatocyte Cell line, HC04, useful for *in vitro* culture of *Plasmodium falciparum* and *P. vivax* liver stages parasites to support malaria drug and vaccine study

Inventors: Prachumsri JS and Yimamnuaychok N.

C. Contribution to Science

1. As leader of the group of experienced staff working on malaria research in endemic country, I have accessed malaria patients and the endemic population in areas with high malaria

prevalence in Thailand. Therefore, I have been interested in malaria transmission and biology of transition stages in the parasite life cycle with a focus on *P. vivax* as it is highly prevalent in Thailand. It is additionally interesting due to the lack of a method of continuous propagation of blood stage of this parasite species in a laboratory. The gametocyte infectiousness of both *P. falciparum* and *P. vivax* in both symptomatic and asymptomatic population is one area of research where I have significantly contributed. My research has also explored factors that contribute to malaria transmission in low endemic areas as this will impact strategic planning for malaria elimination in the region and can be an example for other malaria endemic regions.

- a. Longley RJ, Sripoorote P, Chobson P, Saeseu T, Sukasem C, Phuanukoonnon S, Nguitragool W, Mueller I, Sattabongkot J. High Efficacy of Primaquine Treatment for Plasmodium vivax in Western Thailand. Am J Trop Med Hyg. 2016;95(5):1086-9.
 - b. Longley RJ, Reyes-Sandoval A, Montoya-Diaz E, Dunachie S, Kumpitak C, et al. Acquisition and longevity of antibodies to Plasmodium vivax pre-erythrocytic antigens in western Thailand. Clinical and vaccine immunology : CVI. 2015;
 - c. Baum E, Sattabongkot J, Sirichaisinthop J, Kiattitubtr K, Davies DH, et al. Submicroscopic and asymptomatic Plasmodium falciparum and Plasmodium vivax infections are common in western Thailand - molecular and serological evidence. Malaria journal. 2015; 14:95.
2. To work with the patients and populations in endemic areas my team and I have developed protocols that enable us to perform more experiments at field sites for better understanding of the parasite biology as well as developing a population based assay that is useful for the evaluation of drugs and vaccine candidates. These involve but not limited to establishing a membrane feeding assay for *P. vivax* and *P. falciparum* to evaluate the infectiousness of gametocyte and production of sporozoites for liver stage study.
- a. Boonhok R, Rachaphaew N, Duangmanee A, Chobson P, Pattaradilokrat S, Utaisincharoen P, Sattabongkot J, Ponpuak M. LAP-like process as an immune mechanism downstream of IFN-gamma in control of the human malaria Plasmodium vivax liver stage. Proc Natl Acad Sci U S A. 2016;113(25):E3519-28.
 - b. Roobsoong W, Tharinjaroen CS, Rachaphaew N, Chobson P, Schofield L, Cui L, Adams JH, Sattabongkot J. Improvement of culture conditions for long-term in vitro culture of Plasmodium vivax. Malar J. 2015;14:297.
 - c. Mikolajczak SA, Vaughan AM, Kangwanrangsang N, Roobsoong W, Fishbaugher M, Yimamnuaychok N, Rezakhani N, Lakshmanan V, Singh N, Kaushansky A, Camargo N, Baldwin M, Lindner SE, Adams JH, **Sattabongkot J**, Kappe SH. Plasmodium vivax Liver Stage Development and Hypnozoite Persistence in Human Liver-Chimeric Mice. Cell host & microbe. 2015;17(4):526-35.
 - d. Sattabongkot J, Tsuboi T, Han ET, Bantuchai S, Buates S. Loop-mediated isothermal amplification assay for rapid diagnosis of malaria infections in an area of endemicity in Thailand. Journal of clinical microbiology. 2014; 52(5):1471-7.
 - e. Sattabongkot J, Maneechai N, Phunkitchar V, Eikarat N, Khuntirat B, Sirichaisinthop J, Burge R, Coleman RE. Comparison of artificial membrane feeding with direct skin feeding to estimate the infectiousness of Plasmodium vivax gametocyte carriers to mosquitoes. The American journal of tropical medicine and hygiene. 2003;69(5):529-35.

D. Complete list of publication: Over 195 international papers have been published under Sattabongkot J. and Prachumsri J. (the complete list of publications can be found at URL: <https://www.ncbi.nlm.nih.gov/sites/myncbi/1LmBJc9zyP05c/bibliography/44348897/public/?sort=date&direction=ascending>)