NANYANG TECHNOLOGICAL UNIVERSITY

School of Biological Sciences

Reg. No. 200604393R

Research Theme:

Research Project Title: **INVESTIGATING THE ROLE OF CAMP SIGNALLING CONSERVATION DURING MALARIA PARASITE INVASION**

Principal Investigator/Supervisor: **Prof. Peter Preiser**

Co-supervisor/ Collaborator(s) (if any):

Project Description

Background:

Host cell signalling during malaria parasite invasion is the focus of intense studies as this process is believed to be essential for successful parasite entry and survival. The current available information in this area indicates a conserved mechanism across different Plasmodium species as they induce a calcium influx in the host erythrocyte during invasion. Activation of calcium signalling requires coordinated involvement of various extracellular and intracellular molecular players. Therefore, it is critical to dissect this conserved host cell signalling mechanism in order to find out the mutual factor that can be easily exploited as potential therapeutic targets across the different Plasmodium species. In this proposal we will focus on P. falciparum the parasite responsible for the highest number of global death and P. knowlesi the zoonotic parasite causing significant human morbidity in SE Asia. Based on a body of preliminary evidence we now aim to address three specific aims: 1. Identify the signalling complex that leads to the activation of cAMP during P. falciparum merozoite invasion. 2. Identify the parasite ligand(s) that trigger Ca2+ signalling during P. knowlesi invasion. 3. Identify the signalling complex that leads to the activation of cAMP during P. knowlesi merozoite invasion

Preferred skills: Some experience in cell culture and molecular biology and biochemistry

Supervisor contact:

If you have questions regarding this project, please email the Principal Investigator:

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SBS contact and how to apply:

Associate Chair-Biological Sciences (Graduate Studies) : AC-SBS-GS@ntu.edu.sg

Please apply at the following:

NANYANG TECHNOLOGICAL UNIVERSITY

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Application portal:

https://venus.wis.ntu.edu.sg/GOAL/OnlineApplicationModule/frmOnlineApplication.ASPX

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