

ABSTRACT

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Study Program : Bio Medicine (Infectious Disease)

Title : *In Vivo* and *In Vitro* Assay of O9 Compounds as a Candidate for Novel Antimalarial
Medicine

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Malaria has been one of the concerning global health problems with 212 million recorded cases of malaria infection on 2015 and 62% mortality rates from 2000-2015. Current drugs, such as Artemisinin and Chloroquine, are reported to start developing resistance. Alongside with the increasing resistance rate, the demands for novel antimalarial drugs are also increasing. Through this study, the ability and efficacy of three O9 compounds analogs: O9-03, O9-33, and O9-34 retrieved from Tokyo University Compound Library as *Plasmodium* parasite inhibitor (antimalarial activity) were screened and examined through *in vitro* and *in vivo* assays. The results obtained exhibit the potential of O9 compounds as antimalarial candidate, although the efficacy are still lower compared to Chloroquine. Modification of the compound might increase the efficacy of the antimalarial drug activity.

Keywords: Malaria, *Plasmodium sp.*, *P. falciparum*, O9 Compounds (O9-03, O9-33, O9-34)