

P-54**An Evaluation of β -Hematin Inhibition of *Goniothalamus Macrophyllus* Extracts**

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Malaria is a major public health problem caused by parasites, namely, *Plasmodium vivax*, *P. falciparum*, *P. ovale* and *P. malariae* transmitted via the bites of the female *anopheles* mosquito. The illness results in recurrent attacks of chills and fever and is characterized by high morbidity and mortality rates. *G. macrophyllus* is used traditionally to treat fever. On the basis of this, the extracts of *G. macrophyllus* are evaluated for its antimalarial activity with the β -hematin inhibition assay. During intra erythrocytic growth and proliferation, hemoglobin is utilized as a major source of nutrition by the malaria parasite and haem (ferriprotoporphyrin IX) is released as a toxic byproduct. The major route of haem detoxification in the malaria parasite is through the formation of haemozoin or β -haematin. Thus, inhibition of the β -haematin is utilized as an antimalarial drug target. The ground dried roots of *Goniothalamus macrophyllus* were extracted in aqueous methanol and the crude extract was sequentially partitioned with *n*-hexane, chloroform and butanol. The crude methanol, hexane, chloroform, butanol and residual were assayed for β -haematin inhibition. The inhibitory activity was determined by colorimetric method, measured at 405 nm with a microplate reader. Chloroquine, the most widely used antimalarial drug was used as the positive control. Based on the β -haematin inhibition assay, butanol extract exhibited an IC_{50} value of 32 ± 0.06 μ g/ml and was most potent towards the inhibition of β -hematin compared to the other extracts.

Keywords: *Goniothalamus macrophyllus* extracts, β -hematin inhibition assay.
