In Vitro Cytostatic Effect of Extract from a Marine *Streptomyces sp.* on *Plasmodium falciparum* 3D7

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Abstract

This study was designed to examine the stage dependency of growth inhibition by *Streptomyces sp.* crude extract and to determine whether its antimalarial activity is cytostatic or cytocidal. Growth inhibition was assessed by differences in growth appearance between treated and control parasites. Using synchronized *In vitro* cultures of *Plasmodium falciparum* strain 3D7, growth inhibition was detected within a single parasite cycle. Ring forms and trophozoite stages were sensitive to the inhibitory effect of the crude extract but antimalarial activity was suggested by evidence of late developmental stage. However, evidence of subsequent recovery, occurred when the treated cells were washed with a new medium, and then incubated for 24 hours. At this stage ring forms and the trophozoites showed a successful development into late stages. These observations suggest that the *Streptomyces sp.* crude extract may have a cytostatic effect on *Pl. falciparum.*

Keywords: Cytostatic, Effect, Extract, classes, compounds