Abstract

Malaria is a protozoan infection of Public health concern with several new cases yearly reported. Control of malaria infections is constrained due to the toxicity of currently available drugs and the emergence of resistant malaria strains. The current study was designed to assess the antiplasmodial activity, cytotoxicity and to partially characterize Kenyan Physalis peruviana extracts in order to determine their utility as a possible source of a new antimalarial drug. Antiplasmodial activity of P. peruviana extracts was evaluated in vitro using Plasmodium falciparum D6 chloroquine-sensitive, and W2 chloroquine-resistant by semi-automated microdilution technique. Cytotoxicity assay was determined using Vero cells; while partial characterization determined using Fourier transformer infra-red spectrophotometer (FTIR) and Gas chromatography-mass spectrophotometer (GC-MS). The antiplasmodial activity (IC50) of P. peruviana extracts against chloroquine-sensitive (D6) P. falciparum strain ranged from 14.719±0.744 to >100 ug/ml. For W2, strain antiplasmodial activity ranged from 8.303±1.062 to >100 ug/ml. All the FTIR and GC-MS analysis of P. peruviana leave extract revealed the presence of biologically active components. There is a need for further studies using purified extracts as a means of coming up with possible novel antiplasmodial drugs. P. peruviana extracts were not toxic to Vero cells.