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Bicarbonate in-vitro effect on beta-hematin inhibition by *Artemisia sieberi* aqueous infusion

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Malaria is still considered the most threatening disease in Africa. *Plasmodium*; the malaria parasite, forms during its intra-erythrocytic stage a pigment called hemozoin, which acts as a protection shield against oxygen radical-mediated stress that leads to parasite's death. Many drugs targeting hemozoin formation such as chloroquine and amodiaquine, but recently strains of *Plasmodium* have gained resistance to such drugs. *Artemisia sieberi* stem and leaf water infusion extract compared with *A. sieberi* bicarbonate aqueous infusion were tested using a semi-quantitative in-vitro method based on the inhibition of ferriprotoporphyrin IX (FP) bio-mineralization developed by Deharo *et al.* to reveal the differences in antimalarial activity. Reversed phase preparative liquid chromatography coupled to Photo Diode Array (HPLC-PDA) detector was also used to explain this dissimilarity in antimalarial activity. We found that *A. sieberi* bicarbonate aqueous infusion inhibits the formation of β -hematin better than standard water infusion. The bicarbonate addition increases the extraction of more compounds as the chromatographic HPLC results revealed. Other *Artemisia* plants (*A. vulgaris* and *A. herba alba*) were also tested to explore any inhibition effects.

Biography

Mutaz Akkawi is currently working at the Department of Life Sciences, College of Science and Technology, Al-Quds University, Palestine. He has published various research articles in reputed journals.

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