



## Gametocytocidal Activity of Compounds Against *Plasmodium falciparum*

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**ABSTRACT:** Malaria remains one of the most prevalent and deadly infections across Asia, US and Africa. The most lethal species causing malaria is *Plasmodium falciparum*. Malaria parasite has a complex life cycle and in order to eradicate the disease, every stage of life cycle should be considered for treatment including liver stage, erythrocytic stage, sexual stage and mosquito stage. Currently most approved malaria drugs target erythrocytic stages of parasites. The futile attempts to develop an effective vaccine and increasing resistance in existing drugs that target erythrocytic stages have forced researchers look for drugs that target gametocytes, the form which is transmitted to the mosquitoes. Primaquine is the only approved drug that can act on mature gametocytes (stages IV and V) and as a result can help preventing transmission, but its action is partial & it also has toxicity issues in G6PD deficient individuals. As a result, finding alternative drugs targeting gametocytes is of utmost importance, if preventing transmission is our priority. Our study focuses on similar aspects and it is aimed at prevention of malaria transmission with the help of some cytotoxic compounds and their combination. This involves *in vitro* production of *plasmodium falciparum* gametocytes and testing of set of compounds for their gametocytocidal activity. Our aim is to search for a compound which can cause maximum decrease in overall gametocytemia and/or gametocyte viability/infectivity. This strategy has more of a value, in rural areas where malaria is endemic and transmission is perennial. © 2014 iGlobal Research and Publishing Foundation. All rights reserved.

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Conference Proceedings: International Conference on Life Sciences, Informatics, Food and Environment;  
August 29- 30, 2014

Indo Global Journal of Pharmaceutical Sciences( ISSN 2249 1023 ; CODEN- IGJPAI; NLM ID: 101610675)  
indexed and abstracted in EMBASE(Elsevier), SCIRUS(Elsevier),CABI, CAB Abstracts, Chemical Abstract  
Services(CAS), American Chemical Society(ACS), Index Copernicus, EBSCO, DOAJ, Google Scholar and many  
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