



Antimalarial assessment of *Viola odorata* L. by heme polymerization inhibition method

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Background and objectives: *Viola odorata* L. is a grassy plant that grows in the humid regions and has been used to treat liver diseases and complicated and tropical fevers in Iranian traditional medicine (ITM). *V. odorata* has cold and humid temperament while the temperament of fever which is the most important symptom of malaria is the opposite. Antimalarial activity of the petroleum ether fraction of *V. websteri* has been reported through pLDH method *in vitro*. In this study, the antimalarial effect of *V. odorata* which has been used for the treatment of fever in ITM has been evaluated by heme polymerization inhibition method. **Methods:** The fractions were prepared through maceration during four consecutive days using petroleum ether, chloroform, methanol and water; each day the mixture was filtered and the next fresh solvent was added to the dry plant residue. The heme polymerization inhibition method was carried out in 96-wells plate at the concentration of 200 µg/mL for each sample. The absorbance was recorded at 405 nm with an ELISA reader and the heme polymerization inhibition was determined. **Results:** The results demonstrated that the petroleum ether, chloroform, methanol and aqueous fractions of *V. odorata* inhibited heme polymerization up to 62, 77, 100 and 53%, respectively while the methanol fraction of *V. odorata* showed the most considerable results. **Conclusion:** The results introduced the methanol fraction of *V. odorata* L. as a proper candidate for further antimalarial studies.

Keywords: antimalaria, heme polymerization inhibition, Iranian traditional medicine, *Viola odorata*