

## ABSTRAK

### UJI AKTIVITAS ANTIMALARIA EKSTRAK ETANOL DAN EKSTRAK ETIL ASETAT LIDAH MERTUA (*Sansevieria trifasciata* Prain) SECARA *IN VITRO*

Oleh

EVA LESTARI

Pengobatan malaria saat ini masih menggunakan obat sintetik, beberapa kasus dilaporkan resisten, karena itu dilakukan pencarian senyawa baru berasal dari tumbuhan sebagai alternatif obat. *Sansevieria* atau dikenal dengan nama lidah mertua berdasarkan penelitian sebelumnya diketahui memiliki fungsi antibakteri, antifungi, dan kemungkinan memiliki aktivitas antimalaria. Penelitian bertujuan untuk mengkaji kandungan senyawa dalam ekstrak etanol dan ekstrak etil asetat lidah mertua, menguji aktivitas antimalariannya secara *in vitro* dan membandingkan potensi aktivitas antimalaria kedua ekstrak tersebut. Penelitian dilaksanakan pada bulan Oktober 2022 s/d April 2023. Identifikasi tanaman dilakukan di laboratorium Botani FMIPA Unila, pembuatan ekstrak di Laboratorium Terpadu Poltekkes Tanjungkarang dan laboratorium Botani FMIPA Unila, uji fitokimia dilakukan di laboratorium kimia FMIPA Unila, uji GC-MS di laboratorium Instrumen Laboratorium terpadu UII Yogyakarta, dan uji *in vitro* di Laboratorium Penyakit tropis Universitas Airlangga Surabaya. Data yang diperoleh dianalisis menggunakan uji ANOVA, kemudian dilakukan uji lanjut *Tukey's*. sedangkan nilai  $IC_{50}$  diperoleh melalui Analisis Probit. Hasil uji fitokimia metabolit sekunder ekstrak etanol *Sansevieria trifasciata* Prain yaitu saponin, steroid, alkaloid dan flavonoid, sedangkan pada ekstrak etil asetat *Sansevieria trifasciata* Prain ditemukan saponin, steroid, tanin dan alkaloid. Diperoleh nilai  $IC_{50}$  ekstrak etanol *Sansevieria trifasciata* Prain sebesar 137,73  $\mu\text{g/mL}$ , sedangkan nilai  $IC_{50}$  ekstrak etil asetat *Sansevieria trifasciata* Prain 21,29  $\mu\text{g/mL}$ . Disimpulkan ekstrak etil asetat *Sansevieria trifasciata* Prain lebih berpotensi sebagai senyawa antimalaria dibandingkan ekstrak etanol *Sansevieria trifasciata* Prain.

Kata kunci : antimalaria, *Sansevieria trifasciata* Prain, uji *In vitro*.

## ABSTRACT

### ANTIMALARIA ACTIVITY TESTS OF ETHANOL EXTRACT AND ETHYL ACETATE EXTRACT OF Mother-in-Law's Tongue (*Sansevieria trifasciata* Prain) IN VITRO

By

EVA LESTARI

The treatment of malaria currently still uses synthetic drugs, some cases are reported to be resistant, because of that, a search for new compounds derived from plants as alternative medicines is being carried out. Based on previous research, *Sansevieria* or known as Mother-in-law's tongue has antibacterial, antifungal, and possibly antimalarial activity. The aims of this study were to examine the compounds contained in the ethanol extract and ethyl acetate extract of mother-in-law's tongue, to test their antimalarial activity *in vitro* and to compare the potential antimalarial activity of the two extracts. The research was conducted from October 2022 to April 2023. Plant identification was carried out in the FMIPA Unila Botany laboratory, making extracts at the Integrated Laboratory of the Poltekkes Tanjungkarang and the Botany Laboratory of FMIPA Unila, Phytochemical tests were carried out at the FMIPA Unila chemical laboratory, GC-MS test at the Integrated Laboratory Instrument Laboratory UII Yogyakarta, and *in vitro* tests at the Laboratory of Tropical Diseases, Airlangga University, Surabaya. The data obtained were analyzed using the ANOVA test, then the *Tukey's* follow-up test was carried out, while the IC<sub>50</sub> value is obtained through Probit Analysis. Phytochemical test results of secondary metabolites of the ethanol extract of *Sansevieria trifasciata* Prain namely saponin, steroid, alkaloid and flavonoid, while the ethyl acetate extract of *Sansevieria trifasciata* Prain found saponin, steroid, tannin and alkaloid. The IC<sub>50</sub> value of the ethanol extract of *Sansevieria trifasciata* Prain was 137.73 µg/mL, while the IC<sub>50</sub> value of the ethyl acetate extract of *Sansevieria trifasciata* Prain was 21.29 µg/mL. It was concluded that the ethyl acetate extract of *Sansevieria trifasciata* Prain has more potential as an antimalarial compound than the ethanol extract of *Sansevieria trifasciata* Prain.

Key word : antimalarial, *Sansevieria trifasciata* Prain, *In vitro* test.