

INTISARI

Kalkon merupakan prekursor flavonoid dan isoflavonoid yang diketahui memiliki aktivitas antiplasmodium. *Licochalcone A* menghambat pertumbuhan kedua strain *P. falciparum* sensitif klorokuin (3D7) dan resistan klorokuin (Dd2) secara *in vitro*. Berdasarkan docking molekular secara *in silico*, telah disintesis beberapa senyawa turunan kalkon. Salah satu senyawa hasil sintesis tersebut adalah (E)-1-(4-aminofenil)-3-(2,5-dimetoksifenil)prop-2-en-1-one yang belum diketahui aktivitas antiplasmodiumnya.

Tujuan penelitian untuk mengetahui *Inhibitory Concentration 50%* (IC_{50}) dari senyawa (E)-1-(4-aminofenil)-3-(2,5-dimetoksifenil)prop-2-en-1-one. Uji aktivitas antiplasmodium dilakukan pada kultur *P. falciparum* strain FCR-3 dengan metode mikroskopis. Kultur *Plasmodium* dibagi menjadi grup perlakuan, kontrol positif dan kontrol negatif. Berbagai seri kadar senyawa uji ditambahkan ke grup perlakuan dengan replikasi tiga kali. Nilai parasitemia dihitung dari sediaan apus kultur yang diwarnai dengan Giemsa. Hasilnya digunakan untuk menghitung persentase penghambatan pertumbuhan *Plasmodium*.

Hasil penelitian menunjukkan bahwa, senyawa (E)-1-(4-aminofenil)-3-(2,5-dimetoksifenil)prop-2-en-1-one mempunyai aktivitas antiplasmodium pada *P. falciparum* strain FCR-3 secara *in vitro* dengan IC_{50} $4,66 \pm 4,38 \mu M$.

Kata Kunci : Kalkon, Antiplasmodium, *Plasmodium falciparum*

ABSTRACT

Chalcones are precursor of flavonoids and isoflavonoids that known to have antiplasmodial activity. Licochalcone A inhibited the *in vitro* growth of both chloroquine-sensitive (3D7) and chloroquine-resistant (DD2) strains of *P. falciparum*. Based on *in silico* molecular docking, we synthesized several chalcone derivate compounds. One of the compounds synthesized are (E) -1- (4-aminophenyl) -3- (2,5-dimethoxyphenyl) prop-2-en-1-one) which its antiplasmodial activity not yet researched.

The aim of research to find out Inhibitory Concentration 50% (IC₅₀) of the (E) -1- (4-aminophenyl) -3- (2,5-dimethoxyphenyl) prop-2-en-1-one) compound. Antiplasmodial activity assay are performed with FCR-3 strains of *P. falciparum* culture using microscopic method. Cultures were divided into trial group, positive control and negative control group. Various concentration of test compound is added to the trial group and replicated three times. Parasitemia values are calculated from culture smears stained with Giemsa. The results are used to calculate the inhibition percentage of the *Plasmodium* growth.

The results showed the compound (E) -1- (4-aminophenyl) -3- (2,5-dimethoxyphenyl) prop-2-en-1-one) has *in vitro* antiplasmodial activity against FCR-3 strain of *P. falciparum* with IC₅₀ $4.66 \pm 4.38 \mu\text{M}$.

Keywords: Chalcone, Antiplasmodial, *Plasmodium falciparum*