

## ABSTRAK

Penyakit kanker masih menjadi sebuah masalah global, terutama pada negara-negara berkembang, termasuk Indonesia. Berdasarkan jenis penyakitnya, kanker payudara paling banyak dialami di Indonesia. Hal ini disebabkan beberapa strain tertentu seperti *Escherchia coli* telah resisten terhadap obat-obatan. Ekstrak etanol rumput teki (*Cyperus rotundus L.*) dan rumput anting-anting (*Acalypha indica L.*) yang umumnya ada di Indonesia, telah sering digunakan sebagai obat anti kanker karena memiliki zat antara lain flavonoid, saponin, minyak atsiri, alkaloid, dan tanin. Ekstrak kedua tanaman ini telah ditemukan dapat menghambat populasi bakteri dan parasit. Penelitian ini bertujuan untuk mengevaluasi sifat antioksidan dan anti-elastase ekstrak rumput teki dan rumput anting-anting secara in vitro dan in silico sebagai kandidat obat kanker payudara dengan studi in silico molekuler docking menggunakan target protein elastase (1B0F). Pada pengujian antioksidan, ekstrak rumput teki dan rumput anting-anting menunjukkan aktivitas antioksidan yang kuat. Pada pengujian anti-elastase, ditemukan bahwa kedua ekstrak memberikan penghambatan aktivitas elastase yang kuat. Sementara pada penelitian eksperimental secara in vitro, uji efektifitas antibakteri dari kedua ekstrak terhadap *E. coli* dengan salah satu faktor yaitu variasi konsentrasi ekstrak dengan komposisi kombinasi 1:1, 1:2, dan 2:1, aquades sebagai control negative dan antibiotic chloramphenicol sebagai kontrol positif. Penelitian ini menyimpulkan bahwa ekstrak rumput teki dan rumput anting-anting berpotensi sebagai sumber kandidat obat kanker payudara.

Kata kunci : rumput teki, rumput anting-anting, in vitro, molecular docking, E.Coli, kanker payudara

## ABSTRACT

Cancer is still a global problem, especially in developing countries, including Indonesia. Based on the type of disease, breast cancer is most prevalent in Indonesia. This is because certain strains such as *Escherchia coli* have become resistant to drugs. Ethanol extracts of teki grass (*Cyperus rotundus L.*) and anting-anting (*Acalypha indica L.*), which are commonly found in Indonesia, have often been used as anti-cancer drugs because they have substances including flavonoids, saponins, essential oils, alkaloids, and tannins. Extracts of these two plants have been found to inhibit bacterial and parasitic populations. This study aims to evaluate the antioxidant and anti-elastase properties of extracts in vitro and in silico as breast cancer drug candidates with an in silico molecular docking study using the elastase protein target (1B0F). In antioxidant testing, teki grass and earring grass extracts showed strong antioxidant activity. In anti-elastase assays, it was found that the extracts of teki grass and earring grass leaves provided strong inhibition of elastase activity. While in the in vitro experimental study, the antibacterial effectiveness of the two extracts against *E. coli* with one factor is the variation of extract concentration with a combination composition of 1:1, 1:2, and 2:1, distilled water as a negative control and antibiotic chloramphenicol as a positive control. This study concluded that teki grass and earring grass extracts have the potential as a source of breast cancer drug candidates.

Key words : teki grass, anting-anting grass, in vitro, molecular docking, E.Coli, breast cancer.

