

INTISARI

Retinol telah dikenal luas sebagai *anti-aging*, namun penggunaannya sering dikaitkan dengan risiko iritasi kulit. Berbagai penelitian menunjukkan aktivitas *anti-aging* senyawa bakuchiol serupa dengan retinol, namun dengan risiko iritasi yang lebih rendah. Bakuchiol umumnya diekstraksi dari biji *Psoralea corylifolium* (L.) Medik., tanaman yang kini dikategorikan terancam. Penelitian ini bertujuan untuk mengeksplorasi potensi tumbuhan suku Piperaceae, Fabaceae, dan Thymelaeaceae di Indonesia sebagai alternatif penghasil bakuchiol alami serta membuat sediaan serum dari ekstrak terpilih.

Tanaman yang diduga mengandung bakuchiol diekstraksi menggunakan metode maserasi, lalu dianalisis melalui KLT-Densitometri. Ekstrak terpilih kemudian diuji aktivitas antioksidannya dengan metode DPPH, dan digunakan dalam formulasi sediaan serum yang kemudian dikarakterisasi. Analisis data dilakukan secara deskriptif dan statistik menggunakan *software* IBM SPSS Statistics 27.

Hasil menunjukkan bahwa ekstrak metanol buah kemukus diduga mengandung senyawa bakuchiol tertinggi dibandingkan ekstrak buah lada, biji kacang kedelai, dan biji kacang hijau, sehingga digunakan untuk penelitian lanjutan. Aktivitas antioksidan ekstrak buah kemukus tergolong sangat lemah dengan nilai IC_{50} 351,65 ppm. Serum F1 menunjukkan stabilitas fisik dan kimia paling optimal, dengan nilai pH 5, viskositas yang stabil, ukuran partikel 180 nm, serta nilai PDI 0,283 yang mengindikasikan dispersi partikel homogen dan stabil.

Kata kunci: bakuchiol, eksplorasi, serum, tanaman Indonesia

ABSTRACT

Retinol is widely known for its anti-aging properties, but its use is often linked to skin irritation. Recent studies have shown that bakuchiol offers similar anti-aging effects with a lower risk of irritation. Typically, bakuchiol is extracted from the seeds of *Psoralea corylifolia* (L.) Medik., an endangered plant species. This study aims to explore the potential of Indonesian plants from the Piperaceae, Fabaceae, and Thymelaeaceae families as alternative natural sources of bakuchiol, and to formulate a serum using the selected extract.

Plants suspected to contain bakuchiol were extracted using the maceration method and analyzed through TLC-Densitometry. The selected extract was then evaluated for its antioxidant activity using the DPPH method and incorporated into a serum formulation, which was subsequently characterized. Data analysis was conducted using descriptive and statistical methods with IBM SPSS Statistics 27.

The results showed that the methanolic extract of cubeb fruit (*Piper cubeba*) was suspected to contain the highest concentration of bakuchiol compared to the extracts of black pepper, soybean, and mung bean, and was therefore selected for further development. The antioxidant activity of the cubeb fruit extract was considered very weak, with an IC₅₀ value of 351.65 ppm. Among the serum formulations, F1 exhibited the best physical and chemical stability, with a pH of 5, stable viscosity, a particle size of 180 nm, and a polydispersity index (PDI) of 0.283 indicating a homogeneous and stable particle dispersion.

Keywords: bakuchiol, exploration, serum, Indonesian plants.