Uji Antioksidan, Penghambatan Aktivitas Tirosinase dan Formulasi Krim Masker Wajah yang Mengandung Fraksi Ter-Aktif Tanaman Markisa Manis (Passiflora ligularis Juss) = Antioxidant Test, Tyrosinase Activity Inhibition and Face Mask Cream Formulation Containing the Most Active Fraction of Sweet Granadilla (Passiflora ligularis Juss)

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Abstrak

Markisa manis (Passiflora ligularis Juss) tumbuh di dataran tinggi yang sejuk di Indonesia, salah satunya provinsi Sumatera Barat. Markisa manis memiliki aktivitas antioksidan yang kuat dan memiliki potensi dalam penghambatan tirosinase dari bagian tanamannya. Tujuan dari penelitian ini adalah menganalisis kadar flavonoid, kadar polifenol, aktivitas antioksidan (1,1-difenil-2-pikrilhidrazil (DPPH) dan Ferric Reducing Antioxidant Power (FRAP)) dan penghambatan tirosinase dari ekstrak dan fraksi bagian tanaman markisa manis, selanjutnya fraksi bagian ter-aktif diformulasikan dalam sediaan krim masker wajah. Penelitian ini menggunakan empat bagian tanaman markisa manis yaitu daun, batang, biji dan kulit buah. Proses ekstraksi dilakukan dengan pelarut etanol 70% menggunakan metode Ultrasound-Assisted Extraction (UAE). Ekstrak bagian tanaman yang menunjukkan hasil pengujian terbaik selanjutnya dilakukan fraksinasi dengan n-heksan, etil asetat dan akuades. Fraksi bagian tanaman ter-aktif dilakukan pengujian antioksidan dan aktivitas penghambatan tirosinase, kemudian diidentifikasi menggunakan Liquid Chromatograpy Mass Spectroscopy (LC-MS). Fraksi ter-aktif diperoleh dari bagian biji sebagai fraksi etil asetat biji yang diformulasikan dalam sediaan krim masker wajah. Hasil penelitian menunjukkan aktivitas antioksidan ekstrak dan fraksi yang sangat kuat hingga kuat dan memiliki potensi penghambatan tirosinase. Sedangkan krim masker wajah menunjukkan aktivitas antioksidan yang sangat kuat dan potensi penghambatan tirosinase pada F1 dan F2. Stabilitas 12 minggu menunjukkan terjadinya penurunan aktivitas antioksidan, penghambatan tirosinase dan evaluasi fisik sediaan pada F1 dan F2.
.....Sweet granadilla (Passiflora ligularis Juss) grows in the cool highlands of Indonesia, one of which is the province of West Sumatera. Sweet granadilla has potent antioxidant activity and potential to inhibit the tyrosinase enzyme from plant parts. The purpose of this study was to analyze the content of flavonoid, polyphenols, antioxidant activity (1,1-diphenyl-2-picrylhydrazyl (DPPH) and Ferric Reducing Antioxidant Power (FRAP)) and inhibition of tyrosinase from extracts and fraction of sweet granadilla plant parts, then the most active part fraction were formulated in facial mask cream. This study used four parts of the sweet granadilla. They were leaves, stems, peels and seeds. The extraction process was carried out with 70% ethanol solvent with Ultrasound-Assisted Extraction (UAE) method. Extracts of plant parts that showed the best results then fractionated with n-hexane, ethyl acetate and distilled water. The selected fraction from plant parts was tested for antioxidant activity and inhibition of tyrosinase then identified was done by Liquid Chromatography Mass Spectroscopy (LC-MS). The most active fraction was obtained from the seeds as the ethyl acetate fraction of the seeds. This ethyl acetate fraction was formulated in a face mask cream. The results showed that the antioxidant activity of the extracts and fractions was very strong to strong and had the potential for tyrosinase inhibition. While the face mask cream showed very strong antioxidant activity and tyrosinase inhibition potential in F1 and F2. The 12-week stability showed a decrease in antioxidant

activity, tyrosinase inhibition and physical evaluation of the preparation in F1 and F2.