ABSTRAK

Latar Belakang : Kulit jeruk gerga (*Citrus x aurantium* L.) mengandung senyawa flavonoid yang diduga memiliki potensi sebagai antidiabetes. Fermentasi SCOBY dapat meningkatkan nilai gizi, kualitas rasa dan aroma serta kandungan senyawa aktif. Tujuan penelitian ini mengetahui apakah infusa kulit jeruk gerga dan fermentasi SCOBY kulit jeruk gerga memiliki aktivitas antidiabetes, mengetahui konsentrasi efektif pemberian dan melihat perbandingan aktivitas infusa kulit jeruk gerga dan fermentasi scoby kulit jeruk gerga dalam memberikan efek antidiabetes.

Metode : Metode yang digunakan pada penelitian ini bersifat eksperimental dengan 6 kelompok perlakuan yang terdiri dari kontrol positif, kontrol negatif, P1A infusa dengan volume pemberian 1 ml/100gBB, P1B infusa dengan volume pemberian 2 ml/100gBB, P2A fermentasi SCOBY dengan volume pemberian 1 ml/100gBB dan P2B fermentasi SCOBY dengan volume pemberian 2 ml/100gBB. Metode Ekstraksi yang digunakan yakni metode infusa. Uji yang dilakukan yaitu pengujian kadar fenol total, flavonoid total, profil senyawa dan pengukuran kadar gula darah pada hari ke-3, ke-7 dan ke-14. Analisis data dilakukan dengan two way anova dan dilanjutkan dengan uji Duncan.

Hasil : Penelitian menunjukkan bahwa infusa kulit jeruk gerga dan fermentasi SCOBY kulit jeruk gerga dapat menurunkan kadar gula darah pada volume pemberian 1ml/100gBB dan 2ml/100gBB. Hasil ini menunjukkan bahwa infusa kulit jeruk gerga dan fermentasi SCOBY kulit jeruk gerga memiliki aktivitas sebagai antidiabetes.

Kesimpulan : Fermentasi SCOBY kulit jeruk gerga dengan volume pemberian 2 ml/100gBB merupakan konsentrasi paling efektif dalam menurunkan kadar gula darah.

Kata kunci : Antidiabetes, kulit jeruk gerga, infusa, fermentasi SCOBY, kadar gula darah, fenol total, flavonoid total, LCMS.

ABSTRACT

Background : Gerga Orange peel (*Citrus x aurantium* L.) contains flavonoid compounds which are thought to have potential as antidiabetics. SCOBY fermentation can increase the nutritional value, taste and flavor quality and the content of active compounds. The purpose of this study was to determine infusion of gerga orange peel and SCOBY fermentation of gerga orange peel have antidiabetic activity, determine the effective concentration of administration and see the comparison of the activity infusion of gerga orange peel and SCOBY fermentation of gerga orange peel in providing antidiabetic effect

Method : The method used in study was experimental with 6 treatement groups consisting of positive control, negative control, P1A infusion with the volume of administration is 1 ml/100gBW, P1B infusion with the volume of administration is 2 ml/100gBW, P2A SCOBY fermentation with the volume of administration is 1 ml/100gBW, and P2B SCOBY fermentation with the volume of administration is 2 ml/100gBW. The extraction method used is the infusion method. The tests carried out were testing total phenol content, total flavonoids content, compound profiles and measuring of blood sugar levels on day 3, 7 and 14. Data analysis was carried out using two way ANOVA and continued with duncan's test.

Results : Research shows that the infusion of gerga orange peel and SCOBY fermentation of gerga orange peel can reduce blood sugar levels at volumes of administration 1 ml/100gBW and 2 ml/100gBW. These results indicate that the infusion of gerga orange peel and SCOBY fermentation of gerga orange peel have antidiabetic activity.

Conclusion : SCOBY fermentation of gerga orange peel with the volume of administration of 2 ml/100gBW is the most effective concentration in decrease blood sugar levels.

Keywords : antidiabetic, gerga orange peel, infusion, SCOBY fermentation, blood sugar levels, total phenol content, total flavonoids content, LCMS