ABSTRAK

Tanaman semangka merah (*Citrullus lanatus* (Thunb.) Matsum. & Nakai) memiliki kandungan senyawa yang berpotensi dalam menurunkan kadar gula darah, tidak terkecuali pada bagian kulit putih atau albedo semangka yang selama ini menjadi limbah organik di masyarakat. Penelitian ini dilakukan untuk mengetahui pengaruh pemberian Ekstrak Etanol Albedo Semangka Merah (EEASM) terhadap penurunan kadar gula darah mencit jantan yang terinduksi sukrosa. Albedo di ekstraksi menggunakan metode maserasi dengan pelarut etanol 70%. Penelitian ini menggunakan jenis eksperimental murni dengan rancangan acak lengkap pola searah dan menggunakan metode Uji Toleransi Gula Oral (UTGO). Pengujian dilakukan terhadap 35 ekor mencit jantan yang dibagi secara acak dalam 7 kelompok. Kelompok (I) diberi CMC-Na 1% (kontrol normal), kelompok (II) diberi EEASM (kontrol ekstrak), kelompok (III) diberi larutan sukrosa dosis 4 g/kgBB (kontrol gula), kelompok (IV) diberi akarbosa dosis 40 mg/kgBB (kontrol positif), dan kelompok perlakuan (V, VI, VII) diberikan EEASM dengan tiga peringkat dosis yaitu 833,33; 1666,67; dan 3333,33 mg/kgBB. Pemberian induksi sukrosa dilakukan setelah 30 menit pemberian perlakuan pada kelompok IV-VII. Kadar gula darah mencit diukur sebelum diberi perlakuan (menit ke-0) dan diukur kembali setelah diberi perlakuan (menit ke-15, 30, 60, 90 dan 120) dengan glukometer. Hasil data AUC pada setiap kelompok dianalisis secara statistik menggunakan uji *Shapiro-Wilk, Levene Test, One Way ANOVA,* dan *Tamhane*. Skrining fitokimia secara kualitatif EEASM menyatakan adanya kandungan flavonoid, saponin, asam amino, alkaloid, dan negatif tanin. Hasil penelitian menunjukkan bahwa sediaan EEASM memiliki efek antihiperglikemik terhadap mencit jantan galur *Swiss* yang terinduksi sukrosa.

Kata kunci: albedo, antihiperglikemik, ekstrak etanol, semangka merah, sukrosa

ABSTRACT

The red watermelon plant (*Citrullus lanatus* (Thunb.) Matsum. & Nakai) contains compounds that have the potential to lower blood sugar levels, including the white skin or albedo of the watermelon which has been an organic waste in society. This research was conducted to determine the effect of administering Red Albedo Watermelon Ethanol Extract (EEASM) on the sucrose-induced reduction in blood sugar levels of male mice. Albedo was extracted using the maceration method with 70% ethanol solvent. This research used a purely experimental type with a completely randomized design with a unidirectional pattern and used the Oral Sugar Tolerance Test (UTGO) method. Tests were carried out on 35 male mice which were divided randomly into 7 groups. Group (I) was given CMC-Na 1% (normal control), group (II) was given EEASM (extract control), group (III) was given a sucrose solution at a dose of 4 g/kgBW (sugar control), group (IV) was given a dose of acarbose 40 mg/kgBW (positive control), and treatment groups (V, VI, VII) were given EEASM with three dose levels, namely 833.33; 1666.67; and 3333.33 mg/kgBW. Sucrose induction was given after 30 minutes of treatment in groups IV-VII. The mice's blood sugar levels were measured before treatment (0 minutes) and measured again after treatment (15, 30, 60, 90 and 120 minutes) with a glucometer. The AUC data results in each group were analyzed statistically using the *Shapiro-Wilk* test, *Levene test*, *One Way ANOVA*, and *Tamhane*. EEASM qualitative phytochemical screening revealed the presence of flavonoids, saponins, amino acids, alkaloid, and negative tannins. The results showed that the EEASM preparation had an antihyperglycemic effect on male *Swiss* strain mice that were induced by sucrose.

Keywords: albedo, antihyperglycemic, ethanol extract, red watermelon, sucrose