

INTISARI

RAHMAWATI, H.D., 2023 UJI AKTIVITAS GEL TABIR SURYA EKSTRAK ETANOL KULIT BUAH MANGGIS (*Garcinia mangostana* L.) DENGAN VARIASI *GELLING AGENT* CARBOPOL 940 SECARA *IN VITRO*, PROPOSAL SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh apt. Endang Sri Rejeki, M.Sc., dan apt. Anita Nilawati, M.Farm.

Paparan sinar matahari berlebih berbahaya bagi manusia karena memiliki banyak efek merugikan pada mata, sistem kekebalan tubuh serta pada kulit. Tabir surya dapat mencegah efek berbahaya dari radiasi UV dan radikal bebas. Senyawa flavonoid pada kulit buah manggis mempunyai aktivitas tabir surya alami. Tujuan penelitian ini untuk mengetahui mutu fisik dan stabilitas serta aktivitas tabir surya gel ekstrak etanol kulit buah manggis secara *in vitro* dengan variasi carbopol 940.

Ekstrak diperoleh dari proses maserasi menggunakan etanol 70% Gel diformulasikan menggunakan ekstrak 0,1% dan variasi *gelling agent* 0,5%; 1%; dan 1,5%. Parameter uji gel meliputi uji organoleptis, homogenitas, viskositas, pH, daya sebar, daya lekat uji stabilitas *cycling test*, dan uji aktivitas tabir surya gel dilakukan secara *in vitro* dengan mengukur nilai *Sun Protection Factor* (SPF) menggunakan Spektrofotometri UV. Analisis data diolah dengan pendekatan statistik *Shapiro-wilk*, kemudian uji *One Way Anova/Kruskal Wallis*.

Hasil penelitian menunjukkan formulasi gel ekstrak etanol kulit buah manggis 0,1% dengan variasi *gelling agent* carbopol 940 0,5;1 dan 1,5% memiliki mutu fisik dan stabilitas yang baik serta aktivitas tabir surya dengan nilai SPF berturut-turut 41,099; 39,898; 39,270 dengan kategori ultra.

Kata kunci : *Garcinia mangostana* L., Gel, SPF, Tabir surya.

ABSTRACT

RAHMAWATI, H.D., 2023 IN VITRO ACTIVITY TEST OF SUNSCREEN GEL ETHANOL EXTRACT OF MANGOOSTE (*Garcinia mangostana* L.) peel WITH GELLING AGENT VARIATION CARBOPOL 940, PROPOSAL OF THE SCRIPTURE, FACULTY OF SCRIPTURE UNIVERSITY, FACULTY SETIA BUDI, SURAKARTA. Supervised by apt. Endang Sri Rejeki, M.Sc., and apt. Anita Nilawati, M.Farm.

Excessive sun exposure is dangerous for humans because it has many detrimental effects on the eyes, immune system as well as on the skin. Sunscreen can prevent the harmful effects of UV radiation and free radicals. Flavonoid compounds in mangosteen rind have natural sunscreen activity. The purpose of this study was to determine the physical quality and stability and activity of the ethanol extract gel of mangosteen peel in vitro with variations of carbopol 940.

The extract was obtained from the maceration process using 70% ethanol. The gel was formulated using 0.1% extract and 0.5% gelling agent variations; 1%; and 1.5%. Gel test parameters including organoleptic test, homogeneity, viscosity, pH, spreadability, adhesion stability test cycling test, and sunscreen gel activity test were carried out in vitro by measuring the value of Sun Protection Factor (SPF) using UV spectrophotometry. Data analysis was processed using the Shapiro-Wilk statistical approach, then the One Way Anova/Kruskal Wallis test.

The results showed that the 0.1% mangosteen rind ethanol extract gel formulation with variations of the gelling agent carbopol 940 0.5;1 and 1.5% had good physical quality and stability as well as sunscreen activity with an SPF value of 41,099; 39,898; 39,270 with the ultra category.

Keywords: *Garcinia mangostana* L., Gel, SPF, Sunscreen.