

INTISARI

KURNIAWATI, Y., 2019, FORMULASI DAN UJI AKTIVITAS KRIM EKSTRAK ETANOL RIMPANG KUNYIT (*Curcuma domestica* Val.) SEBAGAI *UV PROTECTION* SECARA *IN VITRO* DAN *IN SITU*, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Radiasi sinar ultraviolet (UV) mampu menembus lapisan epidermis, merusak stratum corneum, dan menyebabkan iritasi kulit. Rimpang kunyit (*Curcuma domestica* Val.) mengandung senyawa kurkumin yang berpotensi melindungi kulit dari radiasi sinar UV. Penelitian ini bertujuan untuk mengetahui potensi ekstrak etanol rimpang kunyit sebagai pelindung sinar UV, konsentrasi optimal dari ekstrak etanol rimpang kunyit sebagai pelindung sinar UV, nilai SPF dan perlindungan terhadap eritema pada sediaan krim ekstrak etanol rimpang kunyit.

Konsentrasi krim ekstrak etanol rimpang kunyit yaitu 6 %, 12 %, dan 18%. Uji efektifitas krim ekstrak etanol rimpang kunyit dilakukan dengan uji SPF (*Sun Protection Factor*) secara *in vitro* dan uji eritema secara *in situ*. Pengujian SPF menggunakan spektrofotometri UV-Vis. Nilai SPF dihitung dengan persamaan Mansyur. Uji eritema dilakukan pada punggung kelinci, diolesi krim ekstrak etanol rimpang kunyit dan diradiasi dengan lampu exotera UV B selama 24 jam. Hasil SPF dan eritema dianalisis secara statistik dengan *one way anova*.

Hasil uji SPF pada konsentrasi krim 6 % , 12 %, dan 18 % yaitu 13,248, 26,8023, dan 34,3902. Krim ekstrak kunyit 6 % termasuk kategori maksimum, konsentrai 12 % dan 18 % termasuk kategori ultra. Hasil uji eritema, menunjukkan bahwa semua konsentrasi formula dapat melindungi kulit kelinci dan tidak muncul eritema.

Kata kunci : Radiasi sinar UV, rimpang kunyit (*Curcuma domestica* .Val), SPF ,eritema.

ABSTRACT

KURNIAWATI, Y., 2019, FORMULATION AND THE ACTIVITY TEST OF TURMERIC RHIZOME (*Curcuma domestica* Val.) ETHANOLIC EXTRACT CREAM AS UV PROTECTION IN VITRO AND IN SITU, THESIS, THE FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA.

Radiation ultraviolet (UV) can penetrate the epidermis, damage the stratum corneum layers, and made skin irritation. Turmeric rhizoma (*Curcuma domestica* Val) contains curcumin compounds potentially preventing skin from UV radiation. This study aimed to determine the potential of turmeric rhizome ethanolic extract as UV light protection , to find optimal concentration of turmeric rhizome ethanol extract as UV light protection, the SPF value, and erythema protection ability of tumeric rhizome ethanolic extract cream.

The concentration of turmeric rhizome ethanolic extract cream were 6%, 12%, and 18%. The effectiveness test of this cream was carried out by SPF test (Sun Protection Factor) in vitro and erythema test in situ. SPF test used UV-Vis spectrophotometry. The value of SPF were calculated by the Mansyur's equation. Erythema test was carried out at rabbit back skin, smeared with turmeric rhizome ethanolic extract cream and irradiated with exottera UV B lamp for 24 hours. The result of SPF and erythema were statistically analyzed with one way anova.

The results showed that the SPF value of concentrations cream 6%, 12%, and 18% were 13,248, 26,8023 and 34,3902 respectively. The concentration of 6% was included the maximum category, concentration of 12 % and 18% were included the ultra category. The results erythema test showed that all concentrations of the formula been able protected the skin of rabbit and erythema was not appear.

Key words: radiation ultraviolet (UV), turmeric rhizome (*Curcuma domestica* Val.), SPF, erythema.

