

## INTISARI

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Tabir surya adalah zat yang melindungi kulit dari sinar matahari. Temu hitam (*Curcuma aeruginosa* Roxb.) mengandung antioksidan yang dapat dimanfaatkan sebagai tabir surya. Salah satu sediaan yang digunakan untuk tabir surya adalah krim. Tujuan penelitian untuk mengetahui potensi tabir surya sediaan krim ekstrak etanol temu hitam dan perbedaan potensi tabir surya pada tiap formula sediaan krim ekstrak etanol temu hitam. Metode yang digunakan dalam pembuatan formulasi krim yaitu metode peleburan dan metode yang digunakan dalam penentuan potensi tabir surya adalah spektrofotometri *UV-Vis*. Potensi tabir surya ditentukan berdasarkan nilai SPF, nilai persen transmisi eritema (%Te) dan nilai persen transmisi pigmentasi (%Tp). Berdasarkan nilai SPF tertinggi pada formula IV dengan konsentrasi zat aktif 6% diperoleh rata-rata yaitu  $10.90 \pm 0.64$  termasuk dalam kategori maksimal. Hasil nilai persen transmisi eritema tertinggi pada formula IV dengan konsentrasi zat aktif 6 % diperoleh rata-rata yaitu  $8.09 \pm 0.005$  % termasuk dalam kategori *regulan suntan*. Hasil nilai persen transmisi pigmentasi tertinggi pada formula IV dengan konsentrasi zat aktif 6 % diperoleh rata-rata yaitu  $23.84 \pm 0.002$  % termasuk dalam kategori *total block*.. Hasil analisis statistik dengan uji *Oneway ANOVA* pada penentuan SPF menghasilkan nilai *p-value* < 0,05 yang artinya terdapat perbedaan yang signifikan terhadap potensi tabir surya tiap formula. Sedangkan hasil analisis statistik dengan uji *Kruskal Wallis* pada transmisi eritema dan pigmentasi menghasilkan nilai *Asymp. Sig* < 0,05 yang berarti dapat disimpulkan bahwa adanya perbedaan potensi tabir surya pada tiap formula dengan konsentrasi yang berbeda.

**Kata kunci:** Ekstrak etanol; temu hitam; Krim; Tabir Surya; SPF; %Te; %Tp

## ABSTRACT

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Sunscreen is a substance that protects the skin from the sun. Temu Hitam (*Curcuma aeruginosa* Roxb.) contains antioxidants that can be used as sunscreen. One of the preparations used for sunscreen is cream. The purpose of the study was to determine the potential of sunscreen preparations for the ethanolic extract of black tumeric cream and the differences in the potential of sunscreens in each formulation of the ethanolic extract of Intersection Cream. The method used in making the cream formulation is the melting method and the method used in determining the potential of sunscreen is *UV-Vis* spectrophotometry. The sunscreen potency was determined based on the SPF value, the percentage of erythema transmission (%Te) and the percentage of pigmentation transmission (%Tp). Based on the highest SPF value in formula IV with an active substance concentration of 6 %, it was obtained an average of  $10.90 \pm 0.64$  which was included in the maximum category. The result of the highest percentage of erythema transmission in formula IV with an active substance concentration of 6 % obtained an average of  $8.09 \pm 0.005$  % which was included in the suntan regulation category. The results of the highest percentage of pigmentation transmission value in formula IV with an active substance concentration of 6 % obtained an average of  $23.84 \pm 0.002$  % included in the total block category. The results of statistical analysis with *Oneway ANOVA* test on SPF determination resulted in p-value  $< 0.05$  which means that there is a significant difference in the sunscreen potency of each formula. While the results of statistical analysis with the *Kruskal Wallis* test on the transmission of erythema and pigmentation resulted in the Asymp value. Sig  $< 0.05$  which means it can be concluded that there are differences in the potential of sunscreen in each formula with different concentrations.

**Keyword:** Ethanol extract; black turmeric; cream; sunscreen; SPF; %Te; %Tp

