PENGARUH SUHU PENGERINGAN RIMPANG KUNYIT HITAM TERHADAP AKTIVITAS PENANGKALAN RADIASI UV DENGAN METODE SPEKTROFOTOMETRI UV-VIS

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INTISARI

Latar Belakang: Tabir surya dapat berasal dari bahan alam yang mengandung flavonoid salah satunya kunyit hitam (*Curcuma caesia* Roxb). Dalam persiapan sampel terdapat pengaturan suhu pengeringan. Suhu pengeringan berperan dalam mempengaruhi kandungan senyawa pada tanaman.
Tujuan Penelitian: Melihat pengaruh suhu pengeringan rimpang kunyit hitam (*Curcuma caesia* Roxb) terhadap nilai SPF, %Te, dan %Tp dan untuk mengetahui suhu pengeringan rimpang kunyit hitam (*Curcuma caesia* Roxb) yang menghasilkan aktivitas penangkalan radiasi UV paling baik berdasarkan hasil nilai SPF, %Te, dan %Tp.
Metode Penelitian: Rimpang kunyit hitam dikeringkan menggunakan oven pada suhu 40^0C, 50^0C, 60^0C dan 70^0C. Sampel diekstraksi secara maserasi dalam pelarut etanol 70%. Dilihat pengaruh suhu pengeringan terhadap aktivitas penangkalan radiasi UV, dengan pengukuran nilai SPF, %Te, dan %Tp secara *in vitro* dengan metode spektrofotometri UV-Vis.
Hasil Penelitian: Suhu pengeringan 50^0C menghasilkan nilai SPF, %Te dan %Tp yang paling baik dengan nilai SPF 39,6400 termasuk kategori proteksi ultra, %Te senilai 0,0100% termasuk kategori *sunblock*, dan %Tp senilai 0,7018% termasuk kategori *sunblock*.
Kesimpulan: Suhu pengeringan rimpang kunyit hitam mempengaruhi aktivitas penangkalan radiasi UV yang dapat dilihat dari nilai SPF, %Te dan %Tp dari keempat suhu pengeringan dan suhu pengeringan rimpang kunyit hitam yang menghasilkan aktivitas penangkalan radiasi UV yang paling tinggi berdasarkan nilai SPF, %Te dan %Tp adalah suhu 50^0C.

Kata Kunci: Flavonoid, kunyit hitam, suhu pengeringan, tabir surya

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EFFECT OF DRYING TEMPERATURE BLACK TURMERIC RHIZOME ON ACTIVITY DETERMINATION OF UV RADIATION WITH UV-VIS SPECTROPHOTOMETRY METHOD

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ABSTRACT

Background: Sunscreen can be derived from natural ingredients that contain flavonoids, one of which is black turmeric (*Curcuma caesia* Roxb). In sample preparation there is a drying temperature setting. Drying temperature plays a role in affecting the content of compounds in plants.
Objective: Seeing the effect of drying temperature of black turmeric (*Curcuma caesia* Roxb) on SPF, %Te, and %Tp values and to find out the drying temperature of black turmeric (*Curcuma caesia* Roxb) which produces the best UV radiation protection activity based on the results of SPF value, %Te , and %Tp.
Method: Black turmeric rhizome is dried in an oven at 40^0C, 50^0C, 60^0C and 70^0C. Samples were extracted by maceration in 70% ethanol solvent. The effect of drying temperature on UV radiation protection activity was observed by measuring the values of SPF, %Te, and %Tp in vitro using the UV-Vis spectrophotometry method.
Result: The drying temperature of 50^0C produces the best SPF, %Te and %Tp values with an SPF value of 39.6400 including the ultra protection category, %Te worth 0.0100% including the sunblock category, and %Tp worth 0.7018% including the sunblock category.
Conclusion: The drying temperature of black turmeric rhizome affects UV radiation protection activity which can be seen from the SPF value, %Te and %Tp of the four drying temperatures and the drying temperature of black turmeric rhizome which produces the highest UV radiation protection activity based on SPF value, %Te and %Tp is temperature 50^0C.

Keywords: Flavonoid, black turmeric, drying temperature, sunscreen.

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