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FORMULASI DAN EVALUASI KARAKTERISTIK FISIK SERUM NANOLIPOSOM MINYAK BIJI ANGGUR *(Vitis vinifera L. Seed Oil)*

ABSTRAK

Latar Belakang: Minyak biji anggur mengandung metabolit sekunder yaitu flavonoid, asam fenolik, antosianin, asam lemak, asam amino, vitamin, turunan stilbene. Kandungan senyawa minyak biji anggur dapat memperlambat proses penuaan dan melindungi sel dari oksidasi radikal bebas. Tujuan penelitian ini untuk memformulasikan minyak biji anggur, evaluasi karakteristik fisik dan aktivitas antioksidan serum nanoliposom minyak biji anggur (*Vitis vinifera L.Seed Oil*).
Metode: Jenis penelitian yang digunakan yaitu penelitian eksperimental laboratorium dengan memformulasikan nanoliposom minyak biji anggur (*Vitis vinifera L.Seed Oil*) sebagai serum dengan bobot nanoliposom minyak biji anggur 6,25 gram (F1) dan 12,5 gram (F2). Uji karakteristik fisik ditinjau dari organoleptis, homogenitas, pH, viskositas, daya sebar, daya lekat, sentrifugasi. Data dianalisis menggunakan anova satu jalur melalui *software* SPPS versi 26.
Hasil: Uji karakteristik fisik serum nanoliposom minyak biji anggur (*Vitis vinifera L.Seed Oil*) memiliki bentuk semi solid, berwarna putih, bau khas aloe vera dan homogen. pH serum memiliki rentang 4,5-8, viskositas memiliki rentang 800-3.000 cP, daya sebar memiliki rentang 5-7 cm dan daya lekat lebih dari 1 detik. Nilai IC_{50} serum nanoliposom minyak biji anggur (*Vitis vinifera L.Seed Oil*) formula 1 sebesar 91,35189 ± 1,7498 ppm dan formula 2 sebesar 58,51323 ± 2,7763 ppm. Keduanya termasuk kategori antioksidan kuat.
Kesimpulan : Perbedaan bobot nanoliposom mempengaruhi karakteristik fisik berupa organoleptis (warna), pH, viskositas dan daya sebar, tetapi tidak berpengaruh pada daya lekat dan sentrifugasi. Perbedaan bobot nanoliposom mempengaruhi aktivitas antioksidan serum secara signifikan.

Kata kunci : minyak biji anggur, nanoliposom, serum, karakteristik fisik, antioksidan.

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FORMULATION AND EVALUATION OF PHYSICAL CHARACTERISTICS OF GRAPE SEED OIL NANOLIPOSOM SERUM *(Vitis vinifera L. Seed Oil)*

ABSTRACT

Background: *Grape seed oil contains secondary metabolites namely flavonoids, phenolic acids, anthocyanins, fatty acids, amino acids, vitamins, stilbene derivatives. The compound content of grape seed oil can slow down the aging process and protect cells from free radical oxidation. The purpose of this study was to formulate grape seed oil, evaluate the physical characteristics and antioxidant activity of grape seed oil nanoliposome serum (Vitis vinifera L.Seed Oil).*

Method: *The type of research used is laboratory experimental research by formulating grape seed oil nanoliposomes (Vitis vinifera L.Seed Oil) as serum with grape seed oil nanoliposome weights of 6.25 grams (F1) and 12.5 grams (F2). Physical characteristics test in terms of organoleptic, homogeneity, pH, viscosity, dispersion, adhesion, centrifugation. Data was analyzed using single-path anova through SPPS software version 26.*

Results: *Test of physical characteristics of grape seed oil nanoliposome serum (Vitis vinifera L.Seed Oil) has semi-solid form, white color, characteristic smell of aloe vera and homogeneous. Serum pH has a range of 4.5-8, viscosity has a range of 800-3,000 cP, dispersion has a range of 5-7 cm and adhesion of more than 1 second. The* IC_{50} *value of serum nanoliposomes of grape seed oil (Vitis vinifera L.Seed Oil) formula 1 is 91.35189 ± 1.7498 ppm and formula 2 is 58.51323 ± 2.7763 ppm. Both belong to the category of powerful antioxidants.*

Conclusion: *The difference in nanoliposome weight affects the physical characteristics of organoleptis (color), pH, viscosity and dispersion, but has no effect on adhesion and centrifugation. The difference in nanoliposome weight significantly affects serum antioxidant activity.*

Keywords: *grape seed oil, nanoliposome, serum, physical characteristics, antioxidant.*