PREPARATION OF ANTIOXIDANT LIP SERUM FROM *Daucus Carota* L.

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ABSTRACT

PREPARATION OF ANTIOXIDANT LIP SERUM FROM *Daucus Carota* L.

Lip coloring is an ancient practice used to enhance the appearance of the lips and add a glamorous touch to face make-up. The color shades, textures, and lustres available for this have been altered and expanded. This can be observed in the lip balm, lip serum, lip gloss and lipstick that are offered in hundreds of different colors to meet demand. However, several lip care products contain chemicals in the formulation, such as phenol, salicylic acid, petroleum jelly, paraffin wax, oleyl and alcohol which can cause irritation and make lips drier. Hence, a natural lip serum formulation is increasingly replacing harmful synthetic lip care product formulations. The importance of lip serum in addressing common issues such as dryness, chapping, and fine wrinkles on the lips. Therefore, this study was conducted to identify the presence of phytochemical constituents in *Daucus Carota* L. extract using a qualitative phytochemical screening test, to prepare a natural antioxidant lip serum using *Daucus Carota* L. extract, to evaluate the physicochemical properties of antioxidant lip serum using texture, color, pH, skin irritation, and spread ability tests, and to determine the antioxidant activity of *Daucus Carota* L. extract and the prepared lip serum using a 2,2-diphenyl-1-pircylhydrazyl (DPPH) radical scavenging assay and total phenolic content. The crude of *Daucus Carota* L. was extracted using Soxhlet extraction in 95% ethanol for 7 hours. The percentage yield of orange crude extract obtained was 15.67%. The phytochemical screening showed the presence of saponins, carotenoids, flavonoids and phenolics. The prepared lip serum showed that formulation 2 is better than formulation 1. The color of lip serum for formulation 2 is orange and the pH is 6.32. The skin irritation test showing a positive reaction, which is non-irritate, the texture of the lip serum is soft and not hard, and the spreadability test is good. The IC_{50} values of the DPPH radical scavenging assay for ascorbic acid, *Daucus Carota* L. extract, formulation 1 and formulation 2 of lip serum were 3.25, 8.84, 14.38 and 11.27 ppm, respectively. Therefore, both formulations exhibit strong antioxidant activity. Meanwhile, the total phenolic compounds in the ethanol extracts of *Daucus Carota* L. were 134.07±3.315 mg GAE/g. The ethanolic extracts of carrot possess high amounts of phenolic compounds and exhibit strong antioxidant activities as measured by DPPH. Therefore, carrot is an ideal option for developing new cosmetic products that prevent cell damage from free radical exposures.

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