

University of Sciences and Technology of Oran Mohamed Boudiaf (USTO-MB)

Authors : Patricia Mikchaela D. L. Feliciano, Ciela Kadeshka A. Fuentes, Bea Trixia B. Gales, Ethel Princess A. Gepulango, Martin R. Hernandez, Elina Andrea S. Lantion, Jhoe Cynder P. Legaspi, Peter F. Quilala, Gina C. Castro

Abstract : Propolis is a resin-like material used by bees to fill large gap holes in the beehive. It has been found to possess anti-inflammatory property, which stimulates hair growth in rats by inducing hair keratinocytes proliferation, causing water retention and preventing damage caused by heat, ultraviolet rays, and other microorganisms without abnormalities in hair follicles. The present study aimed to formulate 10% and 30% Propolis Hair Cream for use in enhancing hair properties. Raw propolis sample was tested for heavy metals using Atomic Absorption Spectroscopy; zinc and chromium were found to be present. Likewise, propolis was extracted in a percolator using 70% ethanol and concentrated under vacuum using a rotary evaporator. The propolis extract was analyzed for total flavonoid content. Compatibility of the propolis extract with excipients was evaluated using Differential Scanning Calorimetry (DSC). No significant changes in organoleptic properties, pH and viscosity of the formulated creams were noted after four weeks of storage at 2-8°C, 30°C, and 40°C. The formulated creams were found to be non-irritating based on the Modified Draize Rabbit Test. In vivo efficacy was evaluated based on thickness and tensile strength of hair grown on previously shaved rat skin. Results show that the formulated 30% propolis-based cream had greater hair enhancing properties than the 10% propolis cream, which had a comparable effect with minoxidil.

Keywords : atomic absorption spectroscopy, differential scanning calorimetry (DSC), modified draize rabbit test, propolis

Conference Title : ICPDDT 2016 : International Conference on Pharmaceutical Drug Designing and Technology

Conference Location : Tokyo, Japan

Conference Dates : May 26-27, 2016