**EVALUATION OF MANGIFERIN ANTIOXIDANT ACTIVITY IN FACIAL FORMULATION AGAINST SKIN AGING**

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Mangiferin is a bioactive compound present in mango peel and in other parts of the fruit. This bioactive compound shows pharmacological activities, such as antioxidant, being a potential ingredient for pharmaceutical or cosmetic use. Antioxidant compounds contain damage caused by reactive oxygen species, from naturally or external factors such as solar radiation. However, the physicochemical characteristics of this bioactive agent limit its use. With that in mind, the present study aims to evaluate antioxidant activity of mangiferin in skin for prevention and treatment of skin aging. Therefore, mangiferin will be extracted from Tommy Atkins mango residues, followed by HPLC identification and quantification. Then, the extract will be encapsulated into liposomes. Antioxidant activity, cytotoxicity of free and encapsulated mangiferin, the stability of mangiferin-containing liposomes and final formulations, will be determined. Release and permeation capacity will be evaluated in vitro using Franz cells diffusion. Once their release capacity is identified, mangiferin-containing liposomes will be incorporated into single serum formulations. As main results, it is expected relevant antioxidant activity with improved release and low toxicity, to be used as a cosmetic product.

**Keywords:** Mangiferin, Mango, Liposomes, Formulations, Waste Use

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