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Wound healing with topical food-derived antioxidants in noisome gel


Food-derived antioxidants are being increasingly investigated for their therapeutic benefits, and the development of food-derived products with anti-oxidative and anti-inflammatory activities for topical oral wound healing has been very attractive. Topical application of food-derived antioxidants, such as quercetin, melatonin, anthocyanins, may provide local or regional effects but they are not possible without effective delivery. Challenges in the delivery of active substances to the oral mucosa include the function of the mouth (mastication, swallowing), salivary secretion, enzymatic degradation and mucociliary clearance. Mucoadhesive formulations using biocompatible substances are designed to overcome these challenges in the oral cavity. In addition, food-derived antioxidants are usually labile to oxidative damage. Therefore, it is essential that a topical oral product with acceptable mucoadhesive and biocompatible properties also protects the antioxidant components from the

oxidative environment. Combinations of mucoadhesive gels with embedded niosomes, non-ionic surfactant vesicles, provides this protection via niosomal encapsulation of the food-derived antioxidants. These noisome gels are prescreened for their physicochemical characteristics before in vitro, in vivo and cell studies and clinical trials. Case studies that emphasize topical oral anthocyanins and transmucosal melatonin are focused.

Speaker Biography

Priprem A has completed her PhD at the age of 32 years from the Robert Gordon University, UK. She is the director of Melatonin Research Group and an academic staff at the faculty of pharmaceutical science, Khon Kaen University, Thailand. She has over 40 publications that have been published in international journals and conferences and she has been serving as an editorial board member of several journals.

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