

PROJECT SUMMARY

Ref No.: MRIC/SISM-HW-09	Title: Topical oil formulation containing plant extracts with inflammatory and antibacterial properties		
Local institution: University of Mauritius			
Collaborating Institutions: V Kanhye Health Foods Co Ltd and University of Pretoria			
Project Leader			
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Research Collaborators			
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TECHNICAL ABSTRACT			
<p>The underexplored rich biodiversity in Mauritius has immense potential in health and wellness, partly due to the reported presence of secondary metabolites and pluripharacological properties (Ramjane et al, 2021). Publications on plant extracts derived from the local endemic and indigenous flora have indicated their ability to modulate physiological and physiochemical processes. The latter prompts the use of these plants into value-added products, which can be transformed into highly commercial outputs. The use of herbal products has successfully maintained healthy skin primarily due to their antibacterial and anti-inflammatory properties (Bedi et al., 2002). Nevertheless, their efficacy can be limited by poor solubility, inadequate molecular size, resulting in failure of absorption and poor bioavailability (Hafner et al, 2014). Nanosystems, such as nanoemulsions, have been reported as dermatological carriers that can readily improve the bioactive release profile, occlusion and dermal permeation while reducing the toxic and irritant effects compared to other types of emulsions. In view of the diversity of molecules in the locally available resources and their multifunctional nature (Ramjane et al., 2021), this project intends to develop stable nanoemulsion of five locally available food/medicinal plants, exhibiting anti-inflammatory and antibacterial properties for subsequent incorporation in oil for topical use.</p>			

Key Words: Biodiversity, Mauritius, Health and Wellness, Nanosystems, plant extracts, anti-inflammatory, antibacterial