

Anti-inflammatory, Antioxidant and Whitening Effects of Poria cocos Bark Extract and Transdermal drug delivery of Supercritical Extracts

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In this study, the anti-inflammatory, whitening, and antioxidant effects of the extracts of Poria cocos Bark were investigated. In addition, an efficient transdermal penetration method was proposed using the selected extract formulation and drug delivery peptide. HPLC analysis of Pachymic acid, known as anti-cancer and anti-inflammatory component of Poria cocos Bark, showed that supercritical extract was extracted more than twice as much as ethanol extract. DPPH, ABTS scavenging experiments were conducted to confirm the antioxidant effect of Poria cocos Bark, and ethanol extract showed lower concentration than supercritical extract. However, as a result of measuring NO (Nitric oxide) production in RAW264.7 cells, supercritical extract showed lower NO production at the same concentration than ethanol extract. In addition, after treatment with Poria cocos Bark extract to B16 cells, melanin production was shown to inhibit both. Franz diffuse cell experiments showed that liposome formulations and transdermal permeation peptides help in transdermal drug delivery.