

The Antimicrobial Activity of Supercritical Robinia pseudo acacia Leaf Extracts and its Application to Anti-atopy Cosmetics

허수현, 이진서, 민혜인, 박수인, 안규민, 김민기, 신문삼[†]
을지대학교
(msshin@eulji.ac.kr[†])

This study aimed to investigate the effect of antimicrobial and physiological activity of supercritical Robinia pseudo-acacia leaf. Total polyphenol content, DPPH radical scavenging ability, Elastase inhibitory assay, SOD-like activity, and Tyrosinase inhibitory activity showed that supercritical extract was similar or somewhat less effects than hydrothermal extract. However, in the antimicrobial experiments, supercritical extract represented high clear zone in Staphylococcus aureus (S. aureus), Propionbacterium acnes and Bacillus subtilis strain. Hydrothermal extract had no effect. The role of S. aureus in atopic dermatitis patients is so important that a serious number of S. aureus colonies have been reported since more than 20 years ago, and the skin infections in S. aureus is not only a problem caused by the formation of severe colonies of bacteria themselves, but also a deterioration of inflammation caused by superantigen (an antigen) derived from S. aureus. Based on this study, the supercritical Robinia pseudo-acacia leaf extract will inhibit S. aureus, making it possible to apply them as anti-atopic cosmetics.