



Antibacterial and antioxidant effects of seven Zingiberaceae plants against acne causing bacteria

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Abstract

Propionibacterium acnes and *Staphylococcus epidermidis* are the major causes of acne. This work was conducted to evaluate antibacterial activity of ethanol extracts from roots of seven Zingiberaceae against acne-causing bacteria. Ethanol extracts of the Zingiberaceae were tested for antibacterial activity by agar disc diffusion methods and broth microdilution method. The antioxidant activities were tested by 2,2-diphenyl-1-picrylhydrazyl (DPPH) and 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulphonic acid (ABTS) radical scavenging assay. Using agar disc diffusion assays, all of the Zingiberaceae ethanol extracts had an inhibitory effect against *P. acnes* and *S. epidermidis*. Among those, ginger, galangal, plai and krachai had strong inhibitory effects. Ginger, galangal, plai and krachai also showed good antioxidant activity. Taken together, Zingiberaceae extracts have the potential for an alternative acne treatment.

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