

## The Antimicrobial Effects of Various Herb's Extracts and It's Application to Prepare Functional Hygienic Materials

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### Abstract

Plants are rich in a wide variety of secondary metabolites such as tannins, terpenoids, alkaloids, and flavonoids, which have been found *in vitro* to have antimicrobial properties.<sup>1</sup> Here we select five medicinal herbs (1) *Panax ginseng C.A Meyer*, (2) *Artemisia capillaries Thunb*, (3) *Schizonepeta tenuifolia Briq*, (4) *Foeniculum vulgare Mill*, and (5) *Aglaia odorata Lour*, which have not been reported the antimicrobial activities. The aim of this work is to prepare the enriched compositions of herb's extracts which can give possible additional function to body cleansing materials such as shampoo and body lotion. Each extract was prepared by extraction process under 115°C, 3 atm. for 4 hours. The concentrations of samples were fixed at 5° Brix. by dilutions. The extracts of *Schizonepeta tenuifolia Briq* and *Aglaia odorata Lour* exhibited the antimicrobial activities against *E.coli*, and *Aglaia odorata Lour* gave significant inhibition against *Staphylococcus aureus* and *Pichia sp.* on the agar plate. Even the other extracts did not showed the inhibitions against the colony formation test, the growth rates were inhibited by some extracts, which were assayed by the visible spectroscopic assay at 600 nm. When we use the mixed extracts with the combination of five extracts, the growth rates against *E.coli*, *Staphylococcus aureus* and *Pichia sp.* were inhibited more effectively rather than using one extract. Our data strongly support the herb's extracts will give a function as an antimicrobial agent and possibly good for anti-scruf activity.

### Reference

1. Lai PK, Roy J. Antimicrobial and chemopreventive properties of herbs and spices. (2004) *Curr, Med, Chem.*, 11(11), 1451-1460.