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Isolation and Identification of Antimicrobial compound from Mugwort (*Artemisia asiatica* Nakai)

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Abstract

The antimicrobial activity of Mugwort (*Artemisia asiatica* Nakai) was investigated. The methanol extract of dried Mugwort was fractionated to hexane, chloroform, ethylacetate, butanol, and aqueous fractions. The hexane fraction among these fractions showed the highest inhibitory effect on the growth of microorganisms such as *Bacillus subtilis*, *Eschericha coli*, and *Staphylococcus aureus* and *Lactobacillus plantarum*. *Bacillus subtilis*, *Eschericha coli*, and *Staphylococcus aureus* were completely inhibited at a concentration of 250, 500, and 750 μg/m*l* respectively. The hexane fraction was further fractionated into 16 subfractions by silica gel column and thin layer chromatography (TLC). The subfraction No. 8, 9, and 10 on TLC exhibited high antimicrbial acvtivity. At 3rd fractionation, subfraction No. 2 inhibited the growth of microorganisms at 500 μg/m*l*. Heptadecane, (E,E)-2,4-Decadienal, Dodecamethyl pentasiloxane, Coumarin, Neophytadiene, Bis(2-ethylhexyl) Phthalate were identified from this antimicrobial fraction by GC-MS.