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## Antimicrobial Activity of Eucosterol Oligosaccharides Isolated from Bulb of Squill (*Scilla scilloides*)

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### Author(s)

Hyang Burm Lee, Sang Myung Lee

### ABSTRACT

Antimicrobial activity of methanol extract from bulb of *Scilla scilloides* as well as the purified eucosterol oligosaccharides (EOs) against bacteria, fungi and alga was evaluated *in vitro* using paper disc bioassay. EOs including scillascilloside E-1, E-2, E-3 and G-1 were isolated from the bulbs by methanol extraction, gel filtration on Sephadex LH-20 and preparative HPLC. The metabolites were identified by MS (HR-FAB-MS) and <sup>1</sup>H- and <sup>13</sup>C-NMR spectral data analyses. Methanol (MeOH) extract and purified compounds, EOs showed a selective inhibitory activity against eukaryotic cells including fungal species such as *Aspergillus flavus*, *Candida albicans*, *Pyricularia oryzae* and an alga such as *Chlorella regulsris* at the concentration of 200 µg/paper disc, but little active against bacteria. Out of four EO compounds, Scilla-scilloside E-3 revealed the highest activity. These results show that the MeOH extract and EOs from the medicinal plant, *S. scilloides*, may be applied as a natural fungicide or a food preservative for control of molds.

### KEYWORDS

Antimicrobial Spectrum; Eucosterol Oligosaccharides (EOs); Natural Fungicidal Activity; Squill Plant

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