PHYTOCHEMICAL SCREENING AND BIOACTIVITIES OF *Boesenbergia rotunda*

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ABSTRACT

PHYTOCHEMICAL SCREENING AND BIOACTIVITIES OF *Boesenbergia rotunda*

The qualitative phytochemical screening as well as antioxidant and antibacterial activities of *Boesenbergia rotunda* (Zingiberaceae) have been investigated. The phytochemicals were extracted by sequential maceration using *n*-hexane, ethyl acetate and methanol, while phytochemical screening was performed using several chemical tests. 2,2-Diphenyl-1-picryhydrazyl and disc diffusion methods were used to determine antioxidant and antibacterial activities, respectively. Flavonoids, phenols, steroids and terpenes were found to be present in the *n*-hexane, ethyl acetate and methanol extracts. However, alkaloids, saponins, tannins were absent in all extracts. Thin layer chromatography analysis revealed that the best separation of compound for the *n*-hexane extract was achieved by using *n*-hexane:diethyl ether (3:2), while better separation of compounds in ethyl acetate extract was accomplished using *n*-hexane:ethyl acetate (2:3). The best solvent system for methanol extract was *n*-hexane:ethyl acetate (1:1). All extracts demonstrated no DPPH radical scavenging activity at concentration of 1000 µg/mL. All extracts showed antibacterial activity towards *S. aureus* (10.25-14.50 mm) and *E. coli* (9.67-17.00 mm). The methanol extract exhibited the highest inhibitory activity toward *S. aureus* and *E. coli* with the inhibition zones diameter were 14.50 and 17.00 mm, respectively.