Phytochemical investigation and antioxidant activity of ganoderma boninense

ABSTRACT

Ganoderma lucidum is known as a functional mushroom and is traditionally being used as medicine but G. boninense is well known as the causal pathogen of basal stem rot disease of oil palm. Numerous secondary metabolites of mushrooms from this genus have been reported with various biological activities. However, there are not many reportsreport on the medicinal benefits of G. boninense. Hence, this study was designed to investigate the phytochemical constituents and antioxidant activities of the fruiting body G. boninense extracts. Various groups of phytochemicals were extracted using solvents with different polarities such as chloroform, ethyl acetate, acetone, methanol, ethanol and distilled water. Results confirmed the presence of numerous phytochemicals in G. boninense fruiting body. Ethanolic extract of G. boninense has the highest phenolic (33.05 ± 1.374 mg GAE/g DW) and total flavonoid (8.20 ± 0.059 mg QE/g DW) content. Furthermore, ethanolic extract of G. boninense also exhibited the greatest potency in antiradical activity with IC50 of 113.9 ± 2.78 µg/ml. Correlation coefficient, R2 = 0.97 suggested phenolic acids of ethanol extract was contributed to its radical scavenging activity