Antifungal phytochemical compounds of cynodon dactylon and their effects on Ganoderma boninense

Abstract

Cynodon dactylon is a type of perennial grass that possesses great medicinal values. It is traditionally used as a rejuvenator, for wound healing and was believed to be able to cure many diseases and infections. Scientifically it has been reported to possess many pharmacological activity including antidiabetic, cardioprotective, antidiarrheal and antibacterial properties. However, the role of C. dactylon in combating plant fungal pathogen was scantly reported. In the present study, antifungal activity of C. dactylon ethanol Solid Phase Extraction (SPE) extract against Ganoderma boninense was investigated. The antifungal activity and Minimum inhibitory concentrations (MICs) were evaluated using agar diffusion bioassay. In this study, elute fraction of C. dactylon ethanol SPE extract was effectively suppressed the G. boninense growth after 14 days of incubation (MIC=20.00 mg/mL). Based on Liquid Chromatography-Mass Spectrometry (LCMS) analysis, some possible antifungal compounds against G. boninense were identified as Tokorono, Ophiopogonin C and Cyclopasifilosides (Saponins), Elemicin (Phenolics), 5-oxo-7- octenoic acid, Stearidonic acid and 17-Hydroxylinolenic acid (Fatty acids), Neocnidilide (carboxylic acid), Gingerglycolipid B and Apiole.