FUCNTIONALITY PROFILING OF MYCELIA AND WILD FRUITING BODY OF *Lentinus swartzii*

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ABSTRACT

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Lentinus swartzii is a wild basidiomycetous fungus that commonly found growing on decaying logs in the forest. This recent study determined the mycochemicals, total phenolics, antioxidant, antibacterial, teratogenic and cytotoxic properties of *L. swartzii* with the intention to establish its role in the nutraceutical industry. Results revealed that the mycelia contained twelve mycochemicals namely; essential oils, triterpenes, anthraquinones, tannins, flavonoids, phenols, anthrones, fatty acids, alkaloid, steroids, sugars, and coumarins. On the other hand, nine mycochemicals were detected in fruiting body extract including essential oils, anthraquinones, tannins, flavonoids, phenols, fatty acids, alkaloids, coumarins and amino acids. Fruiting body extract (87.35%) recorded higher radical scavenging activity than mycelial extract (85.57%) while mycelial extract (58.38mg GAE/g) had higher total phenolic content than the fruiting body extract (45.04mg GAE/g). Both extracts showed no inhibitory activity against two bacterial pathogens. Extracts of mycelia and fruiting body were embryo-toxic at 10000 µg/ml concentration and significantly showed lower percentage hatchability to those exposed at 1000 µg/ml concentration. Only delayed development was noted as the teratogenic effect of fruiting body extract while the mycelial extract showed delayed development and morphological abnormalities like yolk deformity, bent and stunted tail, severe scoliosis,

and pericardial edema. Brine shrimp lethality assay showed that mycelial extract was moderately toxic while the fruiting body extract was non-toxic.

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