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DETERMINATION OF ANTIOXIDANT CAPACITY OF BIOLUMINESCENT NEONOTHOPANUS NAMBI EXTRACT

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ABSTRACT

While the basidiomycetes, especially *Neonothopanus nambi* (luminescence mushroom), is an inexhaustible source of biologically active compounds with medicinal value, the high basidiomycetes are moreover an excellent source of complex edible fungal extracts. Mushrooms are recognised as functional foods and as a source of physiologically beneficial components. It was reported to boost heart health; lower the risk of cancer; promote immune function; ward off viruses, bacteria, and fungi; reduce inflammation; combat allergies, and help to balance blood sugar levels and support the body's detoxification mechanism. This study aims to investigate total phenolic content and antioxidant capacity of the extract derived from *N. nambi*. The total phenolic content of *N. nambi* extract was determined using Folin-Cioucalteu method and calculated as gallic acid equivalents (GAE). The antioxidant activity of *N. nambi* extract was performed via 2, 2-diphenyl-1- picrylhydrazyl (DPPH) free radical scavenging assay and ABTS radical scavenging capacity assays. Vitamin C was used as a positive control in DPPH assay, while Trolox was used as a positive control in ABTS assay. The findings showed that *N. nambi* extract exhibited antioxidant activities as a concentration-dependent manner. The half-maximal inhibitory concentration (IC50) values of *N. nambi* extract were 309.11 µg/mL ± 0.873 and 249.71 µg/mL ± 0.794 for DPPH and ABTS, respectively. To summarize, *N. nambi* extract contains a significant amount of total phenolic content associated with significant antioxidant activity. This study could be a background information to highlight the value of natural products so that further development can be developed for the goods of the public health to improve the quality of life

Keywords: ABTS assay, DPPH assay, luminescence mushroom, *Neonothopanus nambi*, total phenolic content